

Justice by the Grid
Sentencing Disparities under North Carolina's Structured Sentencing Policy

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Table of Contents

1. Abstract	4
2. Introduction	4
3. The Law and its History	5
3.1 The Law	6
3.2 History	11
3.2a Origins – Problems in North Carolina’s Prisons	12
3.2b <i>Creating and Passing Structured Sentencing</i>	14
3.2d <i>National Criminal Justice Context</i>	15
3.2e <i>Changes to Date</i>	17
3.3 Law and History Conclusions	18
4 Theory and Hypotheses	19
4.1 Prior Studies	19
4.1a Extralegal Factors	20
4.1b Legal Factors	42
4.1c Semi-Legal Factor	45
4.2 Hypotheses	49
5 Data and Research Approach	51
6 Results	59
6.1 Regressions	59
6.2 Interpreting Results	65
7 Discussion	71
8 Conclusion	79
<i>References</i>	81
Appendix	89

1. Abstract

North Carolina uses a structured sentencing system intended to provide order and conformity to sentencing outcomes. But is the North Carolina criminal justice system truly blind to differences, or do factors outside the legal scope play a role in how harshly defendants are sentenced? This study aims to answer that question by exploring the role of various case factors on sentencing harshness outcomes. This study looks at A-D level felony cases between October 1, 2013 and December 31, 2017 from the North Carolina Administrative Office of the Court Database. I create a harshness index that compares the sentence a defendant received with the sentence they were at risk of receiving. The study finds that the most important factors in the harshness of sentencing are prior criminal record points and the type of plea defendants take. Having more prior criminal record points leads to less harsh treatment and pleading not guilty leads to harsher treatment. Additionally, this study finds statistically significant results that white men are sentenced harsher than white women, and older defendants are sentenced harsher than the youngest defendants. The results show no statistically significant disparities for black men or black women. There is no significant difference for the type of attorney a defendant has, and sentencing harshness is relatively consistent across location factors. Overall, this study is grounded in a theory of blameworthiness of the defendant.

2. Introduction

In 1993, North Carolina passed innovative structured sentencing legislation aimed at overhauling the state's troubled criminal justice system. The structured sentencing program was lauded as a groundbreaking piece of legislation, even receiving one of tens Innovations in American Government Awards from Harvard University and the Ford Foundation in 1997 (Duncan, Speir,

and Meredith, n.d.). However, few studies have thoroughly assessed the North Carolina Structured Sentencing Act's effects quantitatively. This study builds off of Horton (2005), Brennan (2008), and Abrams and Feckler's (2018) analyses of racial disparities in North Carolina's sentencing. However, this study adds more variables of interest, operationalizes sentencing harshness differently, and focuses on higher level offenses. Through this study, I will analyze various independent variables' impacts on harshness in sentencing, operationalized as the real sentencing outcome a defendant receives as a proportion of the overall risk they were potentially able to receive. This study examines the impacts of a race/sex interaction, age, attorney type, judicial district, county population size, judicial district political context, judicial district racial composition, prior criminal record points, offense severity, and plea type. Clearly, this study takes a wide-reaching approach to understand what may cause disparities in sentencing harshness under a system intended to minimize disparity except for a few legal factors. The following essay will begin by examining North Carolina's current sentencing law and its origins to understand the background and motivations of the law. Then, prior literature on how certain variables impact sentencing will be discussed in order to explain the construction of this article's hypotheses and theories. Particular focus will be given to the theory of blameworthiness of the defendant. Next, I will explain the construction of my dataset and the research approach this article takes. Finally, I will outline the results of the study and discuss its important implications.

3. The Law and its History

To begin, it is important to examine North Carolina's sentencing law and how it was established. Understanding North Carolina sentencing policy is crucial to figuring out how disparities arise in practice. Additionally, the history of the law's creation allows for a better understanding of its

intent. With that intent in mind, we can contextualize its effect and suggest whether it has accomplished its goals. This section will begin by explaining the law as it stands today (which is not very different from its first form) and then proceed to trace the origin of the law over time.

3.1 The Law

As the law stands today, there are only three legal factors for disparities in sentencing: offense classification, prior criminal record, and discretion to find the crime to be presumptive, mitigating, or aggravating. North Carolina uses punishment grids in sentencing; there is a grid for felonies and a grid for misdemeanors. Because this study focuses on disparities among high-level felonies, only the felony chart will be discussed. Figure 1 shows the felony sentencing grid below (*North Carolina Sentencing and Policy Advisory Commission, 2014; hereafter NCSPAC*).

In Figure 1, the horizontal rows represent various offense classifications. The more severe the crime is, the closer the offense classification will be to A, while the less severe crimes are closer to I. Crimes between felony classifications A-D (the focus sample of this study) are typically serious violent crimes. Lower-level crimes classified as felonies E-I tend to be less serious and usually deal with property issues. Higher offense classifications lead to larger sentences (NCSPAC, 2014).

The second legal factor, prior criminal record, can be viewed as the vertical columns in the grid of Figure 1. Six columns break down the various sentencing ranges based on groupings of the defendant's prior record level (NCSPAC, 2014). Different crimes are associated with a different number of points, with more severe crimes receiving a larger number of points than

small misdemeanors (Lubitz, 1993). Those defendants with larger criminal histories are sentenced with more severe punishments than those with smaller criminal histories.

Finally, the third factor for which the law allows for sentencing disparities is whether the case is found to be presumptive, aggravating, or mitigating. In Figure 1, within each cell of the grid, there are three ranges. The top range is for aggravating cases, the middle is for presumptive, and the bottom is for mitigating. These three designations allow for legal distinction in sentencing based on whether the case is more or less severe than average. In sentencing, the judge will normally use the presumptive range, which is established as the sentence for an average crime for a defendant convicted under that offense classification who has that number of prior criminal record points. Approximately 69% of cases in North Carolina are ultimately considered presumptive. However, prosecutors can petition for a case to be sentenced in the aggravating range if they believe that the offender deserves a harsher than average punishment. In that situation, the burden is on the prosecutor to determine that the case is eligible for an aggravating level sentence beyond a reasonable doubt. Only about 4% of cases are sentenced in this higher category. Also, the defense can petition for a case to be sentenced as a mitigating case and receive a less harsh sentence. In that situation, the burden is on the defense to prove beyond a reasonable doubt that the case is in fact deserving of the designation as mitigated. About 27% of cases end in the mitigated range. Also, the defense and the prosecutor can stipulate that the case should be one of the aforementioned designations, and the judge will typically follow that recommendation in sentencing. Ultimately, once the judge receives a petition for sentencing under an alternative level, they will have to decide whether they agree with the filing party that the case deserves a designation as being aggravating or mitigating. If the judge decides that the case is average, they can sentence the defendant under the presumptive range (Markham, 2011).

Once the appropriate cell in the grid is chosen and the judge determines whether the case is presumptive, aggravating, or mitigating, the judge can pick a sentence from within the designated range. Judicial discretion exists here because the judge can choose any number within that range to set as the minimum sentence. The judge can have a big impact because the ranges are as wide as 97 months (8 years), as is the case for presumptive Class B1 Felonies for defendants with 18 or more prior criminal record points (*North Carolina Judicial System*, 2018; hereafter *NCJS*). The sentencing amount can also be determined by plea negotiations between the prosecutor and the defense. If the two parties reach a plea deal, they can determine a certain value of sentencing based on the grid or a range within the grid. Most cases end in plea deals, and often the defendant is incentivized to plead guilty because the prosecutor offers to sentence them under the guidelines for a lower-level charge (Smith, 2005).

Each minimum sentence value determined from Figure 1 is associated with a maximum sentence value found in Figure 2. The first large grouping of numbers in Figure 2 shows the corresponding maximum value for each minimum number of months. The smaller grouping of numbers below shows the corresponding maximum values for sexual offenses. Sexual offenses have higher maximums than other felonies. Under the law, defendants will be dealing with the criminal justice system in one form or another until the end of their maximum sentence (NCSPAC, 2014). However, if defendants are sentenced to an active prison punishment, with good behavior, defendants are eligible to leave prison after they pass their minimum sentence. Defendants who leave prison after their minimum sentence expires must remain under supervised release until their maximum sentence expires (Markham, Sentencing Reduction Credit, 2010).

*** Effective for Offenses Committed on or after 10/1/13 ***

FELONY PUNISHMENT CHART
PRIOR RECORD LEVEL

	I 0-1 Pt	II 2-5 Pts	III 6-9 Pts	IV 10-13 Pts	V 14-17 Pts	VI 18+ Pts	
A	Death or Life Without Parole Defendant Under 18 at Time of Offense: Life With or Without Parole						
B1	A	A	A	A	A <i>Life Without Parole</i>	A <i>Life Without Parole</i>	DISPOSITION <i>Aggravated Range</i>
	240 - 300	276 - 345	317 - 397	365 - 456			
	192 - 240	221 - 276	254 - 317	292 - 365	336 - 420	386 - 483	PRESUMPTIVE RANGE
	144 - 192	166 - 221	190 - 254	219 - 292	252 - 336	290 - 386	<i>Mitigated Range</i>
B2	A	A	A	A	A	A	
	157 - 196	180 - 225	207 - 258	238 - 297	273 - 342	314 - 393	
	125 - 157	144 - 180	165 - 207	190 - 238	219 - 273	251 - 314	
	94 - 125	108 - 144	124 - 165	143 - 190	164 - 219	189 - 251	
C	A	A	A	A	A	A	
	73 - 92	83 - 104	96 - 120	110 - 138	127 - 159	146 - 182	
	58 - 73	67 - 83	77 - 96	88 - 110	101 - 127	117 - 146	
	44 - 58	50 - 67	58 - 77	66 - 88	76 - 101	87 - 117	
D	A	A	A	A	A	A	
	64 - 80	73 - 92	84 - 105	97 - 121	111 - 139	128 - 160	
	51 - 64	59 - 73	67 - 84	78 - 97	89 - 111	103 - 128	
	38 - 51	44 - 59	51 - 67	58 - 78	67 - 89	77 - 103	
E	I/A	I/A	A	A	A	A	
	25 - 31	29 - 36	33 - 41	38 - 48	44 - 55	50 - 63	
	20 - 25	23 - 29	26 - 33	30 - 38	35 - 44	40 - 50	
	15 - 20	17 - 23	20 - 26	23 - 30	26 - 35	30 - 40	
F	I/A	I/A	I/A	A	A	A	
	16 - 20	19 - 23	21 - 27	25 - 31	28 - 36	33 - 41	
	13 - 16	15 - 19	17 - 21	20 - 25	23 - 28	26 - 33	
	10 - 13	11 - 15	13 - 17	15 - 20	17 - 23	20 - 26	
G	I/A	I/A	I/A	I/A	A	A	
	13 - 16	14 - 18	17 - 21	19 - 24	22 - 27	25 - 31	
	10 - 13	12 - 14	13 - 17	15 - 19	17 - 22	20 - 25	
	8 - 10	9 - 12	10 - 13	11 - 15	13 - 17	15 - 20	
H	C/I/A	I/A	I/A	I/A	I/A	A	
	6 - 8	8 - 10	10 - 12	11 - 14	15 - 19	20 - 25	
	5 - 6	6 - 8	8 - 10	9 - 11	12 - 15	16 - 20	
	4 - 5	4 - 6	6 - 8	7 - 9	9 - 12	12 - 16	
I	C	C/I	I	I/A	I/A	I/A	
	6 - 8	6 - 8	6 - 8	8 - 10	9 - 11	10 - 12	
	4 - 6	4 - 6	5 - 6	6 - 8	7 - 9	8 - 10	
	3 - 4	3 - 4	4 - 5	4 - 6	5 - 7	6 - 8	

A – Active Punishment I – Intermediate Punishment C – Community Punishment
Numbers shown are in months and represent the range of minimum sentences

Revised: 09-09-13

Figure 1: Minimum Sentencing Grid for Felonies Committed on or After October 2013 (NCJS, 2018).

***** Effective for Offenses Committed on or after 10/1/13 *****

MINIMUM AND MAXIMUM SENTENCES

The corresponding maximum sentence for each minimum sentence is shown in the tables below. In each column, the number to the left of the dash represents the minimum sentence (in months) and the number to the right of the dash represents the corresponding maximum sentence (in months).

FOR OFFENSE CLASSES B1 THROUGH E

15-30	52-75	89-119	126-164	163-208	200-252	237-297	274-341	311-386
16-32	53-76	90-120	127-165	164-209	201-254	238-298	275-342	312-387
17-33	54-77	91-122	128-166	165-210	202-255	239-299	276-344	313-388
18-34	55-78	92-123	129-167	166-212	203-256	240-300	277-345	314-389
19-35	56-80	93-124	130-168	167-213	204-257	241-302	278-346	315-390
20-36	57-81	94-125	131-170	168-214	205-258	242-303	279-347	316-392
21-38	58-82	95-126	132-171	169-215	206-260	243-304	280-348	317-393
22-39	59-83	96-128	133-172	170-216	207-261	244-305	281-350	318-394
23-40	60-84	97-129	134-173	171-218	208-262	245-306	282-351	319-395
24-41	61-86	98-130	135-174	172-219	209-263	246-308	283-352	320-396
25-42	62-87	99-131	136-176	173-220	210-264	247-309	284-353	321-398
26-44	63-88	100-132	137-177	174-221	211-266	248-310	285-354	322-399
27-45	64-89	101-134	138-178	175-222	212-267	249-311	286-356	323-400
28-46	65-90	102-135	139-179	176-224	213-268	250-312	287-357	324-401
29-47	66-92	103-136	140-180	177-225	214-269	251-314	288-358	325-402
30-48	67-93	104-137	141-182	178-226	215-270	252-315	289-359	326-404
31-50	68-94	105-138	142-183	179-227	216-272	253-316	290-360	327-405
32-51	69-95	106-140	143-184	180-228	217-273	254-317	291-362	328-406
33-52	70-96	107-141	144-185	181-230	218-274	255-318	292-363	329-407
34-53	71-98	108-142	145-186	182-231	219-275	256-320	293-364	330-408
35-54	72-99	109-143	146-188	183-232	220-276	257-321	294-365	331-410
36-56	73-100	110-144	147-189	184-233	221-278	258-322	295-366	332-411
37-57	74-101	111-146	148-190	185-234	222-279	259-323	296-368	333-412
38-58	75-102	112-147	149-191	186-236	223-280	260-324	297-369	334-413
39-59	76-104	113-148	150-192	187-237	224-281	261-326	298-370	335-414
40-60	77-105	114-149	151-194	188-238	225-282	262-327	299-371	336-416
41-62	78-106	115-150	152-195	189-239	226-284	263-328	300-372	337-417
42-63	79-107	116-152	153-196	190-240	227-285	264-329	301-374	338-418
43-64	80-108	117-153	154-197	191-242	228-286	265-330	302-375	339-419
44-65	81-110	118-154	155-198	192-243	229-287	266-332	303-376	
45-66	82-111	119-155	156-200	193-244	230-288	267-333	304-377	
46-68	83-112	120-156	157-201	194-245	231-290	268-334	305-378	
47-69	84-113	121-158	158-202	195-246	232-291	269-335	306-380	
48-70	85-114	122-159	159-203	196-248	233-292	270-336	307-381	
49-71	86-116	123-160	160-204	197-249	234-293	271-338	308-382	
50-72	87-117	124-161	161-206	198-250	235-294	272-339	309-383	
51-74	88-118	125-162	162-207	199-251	236-296	273-340	310-384	

To calculate a maximum sentence when the minimum sentence is 340 months or more, multiply the minimum sentence by 1.20 (rounding to the next highest month) and add 12. *See* G.S. 15A-1340.17(e1).

Sex Offenses: To calculate a maximum sentence for a Class B1 through E felony that is subject to the registration requirements of G.S. Chapter 14, Article 27A, multiply the minimum sentence by 1.20 (rounding to the next highest month) and add 60. *See* G.S. 15A-1340.17(f).

FOR OFFENSE CLASSES F THROUGH I

3-13	8-19	13-25	18-31	23-37	28-43	33-49	38-55
4-14	9-20	14-26	19-32	24-38	29-44	34-50	39-56
5-15	10-21	15-27	20-33	25-39	30-45	35-51	40-57
6-17	11-23	16-29	21-35	26-41	31-47	36-53	41-59
7-18	12-24	17-30	22-36	27-42	32-48	37-54	

Figure 2: Corresponding Maximum Sentences (NCJS, 2018).

In some cases, the defendant will be convicted of multiple offenses. In the sentencing hearing, the prosecution and the defense make recommendations for how defendants of this type should be sentenced.¹ The sentencing judge has three options in this scenario: consecutive, concurrent, or consolidated sentencing. In consecutive sentencing, the sentences are run back-to-back; the sentence lengths are added up and the total sum is served. Concurrent sentencing allows the judge to run all the sentences at the same time (Markham, 2016). For example, a defendant may have three convictions associated with 24 months, 14 months, and four months in prison sentences respectively. Running the sentences concurrently means that all the sentences will begin to be served at the same time, and in this case the defendant will spend 24 months in prison. Finally, consolidated sentencing allows the judge to take multiple convictions and sentence the defendant under a single conviction, typically their most serious offense (Markham, 2016). A defendant with a murder charge, three counts of burglary, and two misdemeanors could have their sentence consolidated and only be sentenced for the murder charge. Similarly, if a defendant has five counts of armed robbery, their sentence could be consolidated so that they are sentenced for one count of armed robbery.

3.2 History

This next section will examine the history of the previously discussed sentencing law in North Carolina. Discussion will begin with the foundations and implementation of the prior sentencing legislation, the Fair Sentencing Act. Then, the foundations and process of today's structured

¹ Because this study focuses on A-D level felonies for which the only possible sentence is active prison time, the discussion of sentencing alternatives, such as those with a combination of active and intermediate sentencing, will not be included in this discussion.

sentencing policy will be discussed. Finally, the ways in which the law has changed since it was first implemented in the 1990s will be addressed.

3.2a Origins – Problems in North Carolina’s Prisons

North Carolina’s judicial system has been plagued with problems throughout its history. North Carolina’s justice system was being increasingly viewed as ineffective in the 1970s. Minorities were being sentenced to disproportionately longer sentences, and the system was not successfully rehabilitating people. The state had the largest prison population per capita in the United States. North Carolina used indeterminate sentencing, a system with few restrictions on judicial power, allowing for wide ranges in sentencing outcomes. Recognizing a need to create fairness in sentencing and a desire to be tough on crime, the General Assembly established the Knox Commission in 1974. Comprised of members of the General Assembly, the Knox Commission was intended to create a more formalized system of criminal justice legislation. The Knox Commission designed the Fair Sentencing Act, a system that had elements of both determinate and indeterminate sentencing. The Fair Sentencing Act (FSA) tried to balance a desire for standardization of sentencing with permission for judicial discretion. Judges were given guidelines for crimes but were allowed to sentence defendants to lower levels if they deemed that there were justifications (Freeman, 2000). Figure 3 shows the Fair Sentencing Act punishment chart. The FSA sorted offenses into various classifications and set corresponding presumptive sentences and maximum sentences. The corresponding sentences clearly allowed judges to have significant discretion in sentencing, as much as 35 years of discretion for C level felonies. In addition, good behavior in prison led to substantially lower sentences. Every day a

defendant spent in prison without a major infraction, one day was taken off their total sentence (Markham, 2014).

Class	Presumptive (G.S. 15A-1340.4(f))	Maximum (G.S. 14-1.1)
A	First-degree murder only; punishable by death or life imprisonment as provided in Chapter 15A, Article 100 (Capital Punishment)	
B	First-degree rape and first-degree sexual offense only; mandatory life imprisonment	
C	15 years	50 years or life, or a fine, or both
D	12 years	40 years, or a fine, or both
E	9 years	30 years, or a fine, or both
F	6 years	20 years, or a fine, or both
G	4 ½ years	15 years, or a fine, or both
H	3 years	10 years, or a fine, or both
I	2 years	5 years, or a fine, or both
J	1 year	3 years, or a fine, or both

Figure 3: Fair Sentencing Act Punishment Chart (Markham, 2014)

However, in the late 1980's, it was clear that the Fair Sentencing Act was failing. North Carolina's judicial system faced serious problems. First and foremost, the state's prisons had become overcrowded (Freeman, 2000). The overcrowding left the state vulnerable to lawsuits, leading to the recognition that change was needed. The North Carolina General Assembly (NCGA) responded by placing a cap on the prison population and allowing for discretionary parole, changes that led to people leaving prisons at high rates. Prison sentences became essentially meaningless; people were serving on average only 18% of their sentences (Lubitz, 1993).

3.2b Creating and Passing Structured Sentencing

It was in this politically troubled landscape that the General Assembly established the Sentencing and Policy Advisory Commission. The main charges of the Commission were to establish new offense classifications, create a structured sentencing system, investigate community-based alternatives for certain offenses, and make a computer model to indicate the plan's effects on North Carolina's prison populations (Lubitz, 1993). The 23-member Commission brought together public and private groups to determine efficient and effective criminal justice policy solutions. The Commission differed in opinions about the best solution to the problems; should they find solutions that increase or decrease incarceration? There was significant disagreement over this question. The Commission's final plan attempted to meld punishment and rehabilitation. Four subcommittees made solutions to "1) establish offense structures, 2) establish defendant structures, 3) propose dispositional recommendations, [and] 4) propose durational recommendations" (Freeman, 2000). The resulting proposal was essentially the structured sentencing law discussed in the previous section. The Commission decided to increase the punishment for high-level, violent crime and decrease the severity of punishment for more minor offenses like property crimes. They also decided that the only factor that should be mandatorily included in sentencing (outside of the details of the crime itself) was prior criminal record because this was viewed as an indicator of future criminal activity. In addition, the Commission also created options for alternatives to incarceration for lower-level offenses; intermediate punishment systems, much like parole, were bolstered to allow low-level defendants more freedom while also being supervised (Lubitz, 1993).

Once the Sentencing Commission's suggestions reached the General Assembly, the bills moved relatively quickly and easily, garnering significant bipartisan support. The House of

Representatives took up the proposals from the Commission first, making changes to post-release supervision but otherwise keeping the grids intact. The Senate received the House version and leaders from both chambers ironed out their desired changes. Ultimately, the plan passed both chambers unanimously, receiving unanimous votes in the House and Senate (Lubitz, 1993). The bill received support from Democratic Governor Jim Hunt, who even advocated for a change that allowed for life without parole sentences for cases of first-degree murder (Betts, 1995). Clearly, there was substantial bipartisan support for this type of criminal justice reform at the time. The final version of the law was viewed as a “compromise... [that] offered something for everyone to like and something to dislike” (Lubitz, 1993). However, there is evidence that people generally supported the law’s increase in punishment for high level offenders, decrease in the use of prison for low level offenders, and creation of sentences with meaning and reliability (a 20-year sentence means 20 years of prison time) (Lubitz, 1993).

3.2d National Criminal Justice Context

The law passed by the General Assembly was not fully unique at the time. Rather, it can be contextualized in a wider movement throughout the 1980s and 1990s to follow up “tough on crime” attitudes with determinate sentencing (Freeman, 2000). The *Bureau of Justice Assistance* (n.d.) filed a report detailing the rise and promise of determinate structured sentencing policies. Indeterminate sentencing was nationally popular before the 1970s, largely because it allowed for significant discretion so that defendants could be treated differently based on their individuality. Indeterminate sentencing gives substantial power to a parole board to decide when an incarcerated person is released within a wide-ranging minimum and maximum sentence. The large discretion permitted in indeterminate sentencing systems was criticized by those who

believed it led to disparities based on extralegal factors. As incarceration became used more widely and the criminal justice system grew, standardization became increasingly desired. In the late 1970s, states began experimenting with legislative alternatives to increase standardization in sentencing. These sentencing models took different forms between states. Many states made a similar decision to North Carolina to pursue presumptive sentencing. Others like California, Arizona, and Indiana chose determinate sentencing models, in which defendants are given a clear minimum and maximum sentence for a specific crime. Then, the defendant can earn release closer to the minimum sentence based on good behavior in a way that removed the power from the parole board. Additionally, a few states like Virginia, Maryland, and Louisiana set voluntary sentencing recommendations. Because these recommendations were voluntary, they still maintained significant judicial discretion. By 1994, over 20 states had shifted away from indeterminate sentencing in favor of alternative experimental options that imposed some degree of standardization. Ultimately, the root of these changes was a desire for increasing harshness in the criminal justice system (BJA, n.d.).

When thinking about the rise of mass incarceration, “tough on crime” policies of the 1980s and 1990s come to mind. The national narrative often focuses on decisions made by white men in the White House, but the story is more complicated than that. In his Pulitzer Prize winning book, *Locking up our Own*, James Forman Jr. (2017) details the wide base of support for harsher sentencing policies. “Tough on crime” policies received bipartisan support and sometimes received higher levels of support among black communities where crime had more tragic effects. Forman Jr. (2017) argues that black communities of this time largely believed that harsher punishment was a necessary deterrent for crime. There was bipartisan support for these increasingly harsh sentencing laws because people believed that policies like the one passed in

North Carolina would improve quality of life in crime-ridden communities. Additionally, decisions made at the state level have the most impact because the criminal justice system is largely a state's issue. Clearly, a movement of harsh policies was sweeping the country and it garnered a large, diverse base of support.

3.2e Changes to Date

Since the 1990s, there have been some changes made to North Carolina's structured sentencing policy, but the overall structure of the punishment grids has remained the same since the law was first implemented in 1995 (NCJS, 2018). The main adjustments to the law have been in offense classification and the corresponding sentence length. In 2009, a new grid was implemented that reduced possible sentence lengths for most offenses, particularly for offenders with medium prior criminal record points. An alteration implemented in 2011 reduced the corresponding maximum value for each minimum sentence length by three months. The 2011 update also increased the maximum values for F-I felonies by nine months each. Additionally, it created special instructions for sexual offenses to multiply the minimum sentence months by 1.2 and add 60 months. Finally, the law was again updated in October of 2013, taking its current form. Unlike before, the 2013 law mandated that A-level felony defendants under 18 were only allowed receive life without parole. This update eliminated the option for sentencing minors to the death penalty (NCJS, 2018).

While there have been some adjustments since 1995, the major elements of the law remain the same. North Carolina's sentencing law maintains its structural grid form that categorizes crimes based on offense classes (A-I Felonies). The law's ranges of defendant's prior criminal record points and the three levels accounting for presumptive, mitigating, and aggravated crimes

have also continued throughout its existence. Overall, the changes since 1995 have been limited adjustments to the sentence lengths, the addition of harsher sentencing for sexual offenders, and the abolition of the death penalty for juveniles (NCJS, 2018).

3.3 Law and History Conclusions

This section served to describe the way in which North Carolina's sentencing law works and why it was created this way. North Carolina's criminal justice system was experiencing significant challenges in the mid-late 20th century. North Carolina was ultimately on the forefront of a growing modern trend of structured sentencing and mandatory minimums. The state altered its legislation during a wave in which the country was approaching crime with harsher punishments. In an attempt to solve the problems North Carolina's criminal justice system faced, the North Carolina General Assembly established the Sentencing and Policy Advisory Commission. The Commission represented broad societal groups with varying interests, demonstrating that the law was a bipartisan compromise. This bipartisan nature is underlined by the fact that the law passed smoothly with no significant opposition in the General Assembly and was signed by the Democratic governor.

Through the remainder of this essay, I will evaluate the effects of the Structured Sentencing Act and help shed light on whether or not the law met its initial goals. The primary goals of this law were to alleviate prison overcrowding and chaotic sentencing terms. The law did this by creating a structure that minimized judicial discretion, decreased prison sentences for low level offenders, and increased prison sentence harshness for high level offenders, the targeted group of this study. At some level there was a desire to decrease disparities which wide

judicial discretion could create. Whether this desire was genuine or merely a way to sell the bill is unclear but seeing as the law garnered bipartisan support and that it was crafted by a Commission of wide-ranging backgrounds, limiting disparities seems like a somewhat genuine concern.

As has been discussed in this section, the 1993 legislation is essentially the same as the legislation that exists today, and it does constrain judicial discretion. The law also defines the only legal factors eligible for determining sentencing outcome to be prior criminal record points and the offense severity. The sentencing grids established by the law have dictated the way that North Carolina has processed criminal cases for the past 26 years, albeit with some minor alterations.

4 Theory and Hypotheses

4.1 Prior Studies

My research serves to evaluate whether several factors impact the harshness of sentencing outcomes. This chapter discusses my hypotheses for each factor in sentencing harshness based on a review of the relevant literature and the theories explaining the hypotheses. First, I present theories on identity characteristics' impacts on sentencing outcomes. Then, I discuss theories of sentencing disparities in legal factors. This is followed by a discussion of the literature and theory about a semi-legal factor, plea type. Overall, my theories are connected through the concept of blameworthiness. Factors that the court decide make a defendant more blameworthy are expected to lead to harsher sentencing outcomes. At the end of the chapter, I conclude by offering my guiding hypotheses for the study.

4.1a Extralegal Factors

Extralegal factors are any categories that are not legally allowed to affect sentencing outcomes. People are not supposed to be treated differently in a court of law based on factors outside the nature of their case and their prior criminal record. However, prior research has made it clear that disparities do exist in the criminal justice system based on a few extralegal factors. The purpose of this study is to observe whether there are disparities in sentencing based on these extralegal factors in North Carolina's sentencing. The extralegal factors examined in this study include race, sex, age, court district, county population, political context, district racial composition, and attorney type. This section explains what prior research has found about how each of these extralegal factors impacts sentencing harshness. This section also identifies the underlying theories behind these disparities in harshness.

The first three factors of study, race, sex, and age, are grouped as identity characteristics. After examining what the research has found about each of those three factors individually, a section will follow explaining studies that have taken an intersectional approach to these categories. Black, middle-aged men are expected to be sentenced the most harshly. These characteristics make up stereotypes of a criminal, underscoring the defendant's blameworthiness and their perceived threat to the community.

The other factors, population size, judicial districts, political context, racial composition, and type of attorney, will follow. It is expected that being in a rural county will lead to greater harshness in sentencing because of shock-value and fewer constraints due to jail overcrowding. It is also expected that harshness will be greatest for defendants with court appointed private attorneys and those who self-represent. Defendants will be better off with public defenders, but

the best outcomes will occur for those defendants with private attorneys. This variation is expected because of incentive structures for the attorneys and variation in access to resources. Additionally, there is expected to be some random variation based on judicial district because while courts are tasked with following the same law of the State of North Carolina, they are also run by locally elected officials with different values. Variation in sentencing harshness is expected based on other location factors. It is predicted that predominantly white and Republican districts will sentence defendants more harshly than Democratic districts with higher minority populations. These results are expected because of differences in value systems of blame and the importance of regional elections in North Carolina's courts. There is proven variation between counties regarding sentencing outcomes that are not explained through individual case variation (Ulmer and Johnson, 2004).

Race

Race is a pervasive element of discrimination throughout society. The history of the United States demonstrates that black and Hispanic people experience discrimination based on their race.² Based on this background and the prior research discussed below, black people are expected to experience harsher sentencing outcomes than white people. Additionally, it is expected that the stereotypical criminal is viewed as a black offender, so throughout the criminal justice system black offenders are disproportionately viewed as a threat to the community. It is also expected that part of this sentencing harshness disparity results from black defendants being viewed as more blameworthy than their white counterparts.

² This study will only focus on black and white defendants.

Hamilton (2017) conducts an empirical study on sentencing disparities under the federal sentencing system. Her research is meant to answer questions on individual cases and regional groupings. Hamilton operationalizes sentencing disparity by determining whether there was an upward departure. Upward departure occurs in the federal system (and some state systems) if the judge finds there is aggravating evidence. The sentencing guideline is determined to be too lenient, so the judge is able to sentence a defendant more than the guideline would allow. Hamilton uses many independent variables including level of conviction, number of counts, criminal history, offense type, acceptance of responsibility, sex, race (white or nonwhite), citizenship status, age (over or under 50), whether the defendant was in custody, and if the case went to trial. Ultimately, the study concludes that there is some racial impact in determining upward departure, with nonwhite defendants receiving higher rates of this harsher sentence. Hamilton suggests that the high number of variables potentially diminish the presence of the effect, but the racial disparity exists nonetheless. The study also finds that upward departure is more likely if the sentence level is higher, there is a larger criminal history, there is a larger number of counts, the defendant does not accept responsibility, the defendant is male, the defendant is a U.S. Citizen, the defendant is over 50, and the defendant is in custody. There is evidence presented in the study that the region of the court plays a role in which of the disparities present themselves and the strength with which they do so (Hamilton, 2017).

Mustard (2001) attempts to determine the effect of race, ethnicity, and sex on sentencing severity in the federal system. The study uses controls of court type, offense level, and criminal history. Ultimately, the study confirms that there is a racial disparity which harms nonwhite people. Beyond race, the study determines that sex, education, income, and citizenship are important factors in sentencing length. The researcher accounted for the method of disparity in

sentencing by observing the rates of upward and downward departures. Downward departure is the opposite of upward departure in which the judge finds mitigating evidence and provides a lower level sentence. Downward departures were the reason for a significant portion of the sentencing disparity. Beyond longer sentences, the study determines that when there is the option to get no prison sentence, black people are less likely than white people to receive that option. Additionally, black people have a higher likelihood of upward departure (Mustard, 2001).

Kutateladze et al. (2014) seeks to understand the racial effect at different steps throughout the sentencing procedure. Using data from New York's District Attorney's Office, the researchers determined that black and Latino people had a higher likelihood of being incarcerated, detained, and offered a custodial plea deal. Cases against white and Latino people were also dismissed at significantly greater rates than black people. The researchers look at Asian populations and see mixed results, but they can determine that they often receive more lenient treatment than even white offenders. Clearly, the study underscores that black people and Hispanic people experience harsher sentencing outcomes (Kutateladze et al., 2014).

In her dissertation, Horton (2005) investigated the sentencing disparities that exist in North Carolina. Because her study focuses specifically on North Carolina's specific sentencing program, Horton's research is the most directly relevant for understanding the theoretical framework. Horton (2005) focused on people convicted of low-level felonies for the years 1998 to 2000. Because her research looked at low level felonies, one of her dependent variables was whether the defendant was sentenced to an active or intermediate sentence. The research determined that nonwhite people were more likely than white people to be given active sentences. Horton (2005) also determined that in two out of the three years of focus, of those who were convicted of a low-level felony, nonwhite people were given statistically significant

longer minimum prison sentences than their white counterparts. The researcher theorizes that the first year of her study was closer to the introduction of the new sentencing law, so judges were more cautious about sentencing disparities. Horton (2005) does not investigate sex, attorney type, number of convictions, or geographic backgrounds of the defendants to determine the impact on sentencing.

Brennan (2008) serves to understand race's impact on sentencing in drug related offenses in North Carolina. One year of drug offenses for "one administrative courtroom in North Carolina" was analyzed for this study (Brennan, 2008). Brennan (2008) operationalized sentence severity by determining whether the offender received active, intermediate, or community punishment. Independent variables included race, sex, age, education, employment, attorney type, length of residence, pretrial release, prior criminal history, prior incarceration, current probation status, known criminal alias, offense class, drug type, and number of indictment charges; clearly the study takes many factors into account. The study concludes that there are racial disparities that exist within sentencing: White offenders receive much less severe sentences than their black and Hispanic counterparts. The research also showed that Hispanic offenders received the most severe sentences (Brennan, 2008).

Sex

In a review of literature on sentencing disparities based on sex, it is clear that the overwhelming majority of research supports the finding that female defendants are given significantly less punitive sentences than males (Albonetti, 1997; Bickle and Peterson, 1991; Nagel and Johnson, 1994; Doerner and Demuth, 2012; Tillyer et al. 2015; Kramer and Ulmer, 2002). While some of

the disparity between the sexes has been found to be caused by legal factors like the types of crimes committed by men versus women, the research below proves that there is extralegal disparity based on sex as well. Extralegal sentencing disparity based on sex is most commonly theorized to result from chivalry. Women are typically seen as less violent and less of a risk to the community. Additionally, pregnancy and child care needs could play a role in maintaining chivalry; Women are potentially viewed as important caretakers deserving less harsh sentences. Men are also stereotypically seen as more aggressive and blameworthy (Bickle and Peterson, 1991; Tillyer et al., 2015). A second theory, the evil woman theory, provides a caveat for women's benefit in sentencing. Women who commit worse crimes or have larger criminal records are viewed outside of the mold of a woman deserving of chivalry, and therefore do not receive more lenient sentencing (Tillyer et al., 2015). The following section discusses research regarding the effect of sex on sentencing outcomes:

Bickle and Peterson (1991) view sex's effect on sentencing through the lens of families. Expanding on the theory of paternalism and chivalry which result in more lenient sentencing outcomes for female defendants, their study attempts to find distinction between women who receive more lenient sentences and those that do not. Bickle and Peterson's research allows for further development of the paternalistic theory to include intersectional effects of families. The researchers look at a sample of male and female defendants involved in federal forgery cases. The study includes explanatory variables to define and categorize the family structure: marital status, dependents (presence vs. support), financial source, and housing are all used. The researchers also control for number of offenses, offense level (based on the federal guidelines), and prior criminal history. In their research, Bickle and Peterson determined that some of their explanatory variables that operationalized the family were important in sentencing disparities,

but others were not. Marital status, having and caring for dependents, and living arrangement all impact sentencing disparities. These findings add to the theory of chivalry by demonstrating that there is a sex effect based on family status. While married women receive more lenient sentences than unmarried women, married men receive harsher sentences. It is theorized that married men who get involved with the criminal justice system are viewed more negatively because they are not fulfilling their sex-defined familial responsibilities. The study looked at intersectional effects as well and found that race also played a role in the harshness outcome (Bickle and Peterson, 1991).

Nagel and Johnson (1994) looks at federal sentencing policies to determine whether there is a sex effect in sentencing. The study undertakes a significant review of the existing literature on sex disparities in sentencing. The researchers also conducted an empirical review of various forms of offenses to compare the rate of downward departure for women versus men. The courts have held that pregnancy and single parenthood are not causes for downward departure (Nagel and Johnson 199-201). However, ultimately the study finds that though sentencing is supposed to be somewhat standardized, women still get a more lenient treatment in sentencing (Nagel and Johnson, 1994).

Doerner and Demuth (2012) confirm that women are sentenced less harshly than men through their study. In their analysis, the researchers assess the variation in legal and extralegal factors that explain disparities in sentencing. The thought is that any sentencing disparity that exists between men and women could be due at least in part to legal factors. Women may commit different crimes than men, or they may play different roles in the crimes. Ultimately, the study finds that accounting for the legal factors, women still receive much more lenient treatment in sentencing than men (Doerner and Demuth, 2012).

Koeppel (2014) is a contradictory study on the impact of sex in sentencing. Based on her study, Koeppel finds that sex does not have an impact on the severity of experience in the sentencing process. However, Koeppel's study is limited by using data from only five rural counties in Iowa. Her sample size of $N=507$ is low and would therefore have the potential to disrupt the findings. The selection of five rural counties in Iowa is also not a randomized sample, so one should hesitate when drawing larger conclusions from this study. This is especially true because the study stands so contradictory to a vast wealth of other literature that finds a sex-based effect in sentencing (Koeppel, 2014).

Adding to the theory of chivalry in sentencing, Tillyer et al. (2015) investigated sex's interaction with criminal history and its effects on sentencing outcomes. Using data from federal drug cases in 2008, the researchers created a logarithmic transformation for sentence length. They also utilized legal, extralegal, and case processing factors (case processing being how the case proceeded, the presence of a plea deal, etc.). Ultimately, the study compares the treatment of men and women with comparable sentence lengths. It is determined that women with less criminal history receive more lenient sentences than men with less criminal history. However, women and men with more extensive criminal histories receive similar sentencing outcomes. This study supports the combined theories of chivalry and the evil woman. Chivalry only protects women from harsher sentences as long as they maintain a pure image (Tillyer et al., 2015).

Age

There has not been much research conducted specifically focusing on the impact of age on sentencing outcomes. Only one such article will be discussed in this section. Further research on age is included in the following section, which discusses intersectional identities. Overall, it is expected that age will impact sentencing outcomes (Steffensmeier et al., 1998). Younger people have begun to be viewed through a lens of less culpability because of recent research on brain development (*Massachusetts General Hospital Center for Law, Brain, and Behavior*, 2012; hereafter *MGHCLBB*). Similarly, older people are viewed with more leniency because of sympathy. However, middle aged people are expected to be sentenced most harshly. This prediction is because middle aged people are stereotypically the most likely to be dangerous repeat offenders. Also, they are considered more responsible for their actions than younger people. This section serves as a discussion of the research about the age effect on sentencing outcomes:

In a novel study, Ryon et al. (2017) studies the specific effects of age on sentencing outcomes, particularly contextualized in a time when the national conversation was shifting in favor of reducing harsh punishments for young people. Data from Florida between 2000 and 2006 of felony probationers convicted was analyzed. The study is robust because of its large sample size of over 240,000. The dependent variable is operationalized by a dichotomous variable of adjudication being withheld or not withheld. Age is grouped into categories that are pulled from previous research – youth offenders, young adults, middle aged adults, mature adults, older adults, and oldest adults. Control variables included race, ethnicity, sex, criminal history, offense level, and crime type. The study finds strong results that show a curvilinear

relationship between age and adjudication being withheld. Youthful offenders (18-20 years old) have the highest rates of adjudication being withheld. Mature adults (40-49 years old) have the lowest rates of adjudication being withheld. Then, oldest adults (60-69 years old) have a high rate of adjudications being withheld, but it is lower than for youthful offenders. The results show a quasi-parabolic relationship with a valley at mature adults. The study also indicates that there is a disparity between men and women for adjudication being withheld, but it is relatively constant across age (Ryon et al., 2017).

An Intersectional Approach

My research is intended to be intersectional and explain harshness disparities holistically. One of the forms that this intersectional approach takes is the inclusion of a race/sex interaction variable. It is expected that creating this interaction variable will make a more accurate depiction of sentencing disparities. A defendant does not enter the courtroom as a single factor; people have multiple intersectional identities. It is expected that defendants who identify as more of the risk groups (black men) will receive harsher sentencing outcomes than those who identify as fewer of the risk factors. For the interaction variable included in this study, it is expected that black men will be sentenced the harshest followed by white men and black women respectively. White women will be sentenced the least harshly. This outcome is expected based on the previously discussed findings on research of race and sex, and how defendant's level of blameworthiness interacts with those variables. The following section discusses research that demonstrate the effects of taking a more intersectional approach to sentencing data:

Steen et al. (2005) studies how stereotypes of criminals within races determine the harshness of sentencing. The researchers construct indicators of a stereotypical drug offender for white and black offenders. A stereotypically dangerous drug offender is a male, repeat offender who is a dealer of high-level drugs. After comparing sentencing outcomes for data from Washington state, the researchers find that white offenders who meet the stereotypical drug offender characteristics receive harsher sentences than those who are not stereotypical. However, black offenders who meet the stereotypical characteristics receive milder sentences than those who are not stereotypical. This research suggests that intersectional identities may impact white offenders, but race is an overwhelmingly strong factor in determining harshness for all black defendants. This study also underscores the theory of blameworthiness and the creation of a blameworthy criminal that leads to harsher sentencing outcomes. Regardless of other factors, all black defendants are expected to be considered blameworthy and experience harsher sentencing outcomes (Steen et al., 2005).

One of the trailblazing intersectional studies is Steffensmeier et al. (1998). This research looks at data from Pennsylvania to analyze the effect of race, sex, and age on sentencing. The study determined that race impacts sentencing outcomes much stronger in younger people than older people. On top of that, age matters more for men. The group which is sentenced most harshly is young, black men. Clearly, this research demonstrates the importance of taking an intersectional approach when looking at sentencing disparities. A notable finding of the study is that defendants under 21 are sentenced less harshly than older defendants (Steffensmeier et al., 1998). This finding further confirms the aforementioned sections' discussion of the age effect.

Building off of the prior study, Spohn and Holleran (2000) examines data from three major U.S. metropolitan areas (Kansas City, Miami, and Chicago) to determine interactive

effects on sentencing's disparate outcomes. Overall, the study finds that age, race, and sex are all statistically significant individually in at least one of the three cities. Age, however, has a stronger impact for men than for women. Additionally, race is much more of a factor among younger men than older men. Young black men receive the harshest treatment of anyone in sentencing. Young Hispanic men and middle-aged black men both receive harsher sentences than middle aged white men. The study was limited by the number of women; Researchers were not able to make conclusions about women because there were simply too few in the sample. The study also finds variations in harshness of sentencing for each demographic among the metropolitan areas (Spohn and Holleran, 2000).

Kramer and Ulmer (2002) studies the factors that determine the likelihood of a violent offender in Pennsylvania receiving a downward departure (a less harsh sentence). The researchers find no statistically significant differences in the likelihood of receiving downward departure based on race. The study did find, however, that young Hispanic men have a smaller chance of receiving a downward departure for violent crimes (a rate of 0.61). On the other hand, young black women have a higher likelihood of receiving a downward departure; about four times the likelihood of comparable young white men. It seems that the factor with the biggest impact on receiving a downward departure is whether the defendant accepts a plea deal rather than being found guilty at trial (Kramer and Ulmer, 2002). Clearly, this study complicates much of the previously discussed research's findings on race, and it serves to support findings that go against the hypotheses.

Doerner and Demuth (2009) use federal sentencing data to study the likelihood of incarceration and length of sentence. The researchers only examine U.S. citizens because the legal procedures vary for citizens as opposed to non-citizens. Similarly, juveniles are removed

from the sample. Their study finds evidence that when the independent variables are interacted, young, Hispanic men have the highest chance of being incarcerated and young, black men receive the longest sentences. Among women, Hispanics are most likely to be incarcerated followed by blacks and whites respectively. There was not found to be a racial disparity for women (Doerner and Demuth, 2009).

In addition to their findings about the age effect of sentencing, Ryon et al. (2017) determine that black offenders have significantly lower rates of adjudication being withheld (less harsh treatment) than white and Hispanic offenders, and the disparity increases with age. Black men have the lowest rates while white and Hispanic women have the highest rates of adjudication being withheld (Ryon et al., 2017).

Steffensmeier et al. (2017) studies the intersectionality of race, sex, and age. The study differentiates itself by adding greater specificity to its operationalization of ages than in prior studies. Of particular importance are the distinct categories for 18-20-year-old defendants and 50+-year-olds. The study employs a mixed-methods design, first relying on quantitative court data from 2003-2010 in Pennsylvania and supplementing with qualitative interviews with Pennsylvania judges. The study's findings support my theories of identity characteristics: blacks are sentenced more harshly than whites, men are sentenced more harshly than women, and adults 21-50 are sentenced more harshly than those who are older or younger. Steffensmeier et al. (2017) finds that when controlling for similarities in cases, a combination of risk factors (20-40-year-old minority male defendants) receive significantly harsher treatment by the court than those defendants with few risk factors (youth or adult white female defendants) (Steffensmeier et al., 2017). This finding underlines the importance of intersectionality in determining blameworthiness of a defendant before the court.

Overall, it is clearly important to look at sentencing outcomes intersectionally. Doing so provides greater insight into how the independent variables work together because in reality, they are not independent of each other. Collectively, the studies suggest that race, gender, and age do interact; Nonwhite, middle-aged men receive the harshest sentencing outcomes, and young, white women receive the least harsh outcomes. Race and sex are easiest to operationalize, but there is variation among the studies in their operationalization of age. This variation possibly impacts the findings. My study's operationalization of age will most resemble Steffensmeier et al. (2017) in its distinction of very young defendants and very old defendants. Their results do indicate a middle set of ages demonstrate a peak in sentencing harshness when the variable is and is not interacted with other identity characteristic variables.

Type of Attorney

The quality of legal representation is expected to have significant impacts on a defendant's sentencing outcome. Private attorneys should provide better outcomes for defendants than public defenders. In turn, public defenders should lead to better outcomes for their clients than court appointed private attorneys. Finally, waiving the right to an attorney and choosing self-representation is expected to have comparable outcomes to being represented by a court appointed private attorney. According to the literature, this disparity is caused by the incentive structures established through compensation. Private attorneys stand to make the most money while public defenders have a set salary. Additionally, court appointed private attorneys typically get a flat rate of a small sum of money and have little incentive to work diligently in producing the defense of their client (Anderson and Heaton, 2012). Beyond the incentive structure, the

disparity in quality of representation is likely caused by a disparity in attorneys' resources; attorneys with more time, resources, and supportive networks will be better equipped to defend their clients. A few defendants choose to waive the right to an attorney and self-represent. This possibility is expected to produce comparable harshness outcomes to defendants with court appointed private attorneys. The theory behind this expectation is that defendants are making a rational choice to self-represent because their attorneys would be ineffective anyway.

Champion (1989) uses mixed methods to analyze data collected during interviews with prosecutors from Virginia, Tennessee, and Kentucky to understand the impact of having a public defender versus a private attorney on case outcomes. The research focused on case outcomes generally, whether there was a plea deal accepted, the case was dropped, or the case went to trial. The cases that were dropped were overwhelmingly represented by private attorneys. However, nearly 20% more of the cases that resulted in plea bargains used a public defender. In the interviews, prosecutors recognized that private attorneys are overall more favorable to their clients than public defenders. This study made clear that there are disparities between the quality of representation between public defenders and private attorneys (Champion, 1989).

Anderson and Heaton (2012) studies the effect of attorney type on sentencing outcomes. The research analyzes murder cases between 1994 and 2005 in Philadelphia, comparing cases where the judge assigns a public defender versus cases where the judge assigns a private attorney. Unlike Champion (1989), Anderson and Heaton (2012) separate public defenders and court appointed private attorneys. Philadelphia randomly assigns one-fifth of its murder defendants a public defender and the other four-fifths a court appointed private attorney. This fact is significant because the two types of attorneys have different incentive structures for cases. Court appointed private attorneys receive a flat rate fee that incentivizes them to quickly move

through cases; There is no reward for thoroughness. Additionally, through qualitative interviews the study found that there are fewer resources and less of a network of support for private attorneys than public defenders. The study found that defendants with public defenders were sentenced to significantly lower levels than those who were given a court appointed private attorney (Anderson and Heaton, 2012).

In the first-of-its-kind study, Hashimoto (2007) studies the outcomes produced by defendant's choosing self-representation. They wanted to learn if waiving the right to counsel really does lead to significantly worse outcomes for defendants. The study uses three databases, two with federal data and one with state data from 75 counties across the country. The study finds that there are not significant differences in sentencing outcomes for defendants choosing self-representation and those choosing appointed counsel. The article suggests that defendants who choose to represent themselves are often motivated by being assigned what they believe to be ineffective and resource-limited attorneys. Their alternative would not have necessarily been much better to begin with, so there would not be a significant decrease in sentencing harshness outcomes (Hashimoto, 2007).

Population Size

This first section uses the populations of each county to determine whether there is an impact on harshness in sentencing. I expect that rural counties sentence people harshest and that urban counties sentence people more leniently. In rural counties, violent felonies are a much rarer occurrence than in urban counties and therefore have a different effect on the community. With increased shock value, there is expected to be a harsher punishment. Urban counties may have

different moral codes than rural counties that could impact their treatment of defendants in sentencing. Also, urban counties have higher risk of jail overcrowding and have to worry about going over capacity (Ulmer and Johnson, 2004). Population size is operationalized per county as opposed to per judicial district because this better serves as an indicator of a rural/urban divide. Small counties are grouped together in judicial districts in order to create court systems of similar population sizes.

Lu (2018) attempts to determine whether a sex effect in sentencing exists differently between urban and rural counties. Using data from across Pennsylvania from 2003-2010, the researcher compares the sentencing outcomes based on courts in communities with different population densities. The dataset is noteworthy for its scale; the sample size is over 186,000 cases from 2003 to 2010. Ultimately, Lu concludes that for the most part the sex disparity is consistent across the rural/urban divide. Lu does find evidence, however, that in the smallest rural counties there is decreased harshness in length of incarceration for women as opposed to men (Lu 2018). The consistency in sentencing disparities found in this study possibly refute the idea that there will be differences found in this study based on county population size.

However, in their previously discussed study, Kramer and Ulmer (2002) find that defendants in large urban courts in Pennsylvania are 3.43 times more likely to receive a downward departure than defendants in more rural courts. Additionally, medium counties are 1.8 times likelier to give a downward departure than small counties. This suggests that larger urban counties are the most lenient to defendants in sentencing while medium counties are somewhat harsher. Smaller rural counties are found to be the harshest for defendants (Kramer and Ulmer, 2002).

Following up on this conclusion, Ulmer and Johnson (2004) investigate court cultures' effects on sentencing outcomes. The study examines data from Pennsylvania and includes many of the common variables seen in similar studies. Most notably, the study includes the size of the court, the amount of cases each court sees and the incarceration capacity as factors of court culture. The results demonstrate that the larger courts sentence defendants less harshly than medium and small courts respectively. Also, counties with higher jail capacity sentence defendants more harshly. However, in counties that have larger black populations, black people were sentenced more harshly. The same trend was observed for Hispanic people as well (Ulmer and Johnson, 2004).

Myers and Talarico (1986) examine sentencing data randomly sampled from Georgia between the years 1976 and 1981 to try to determine the effect county's urbanity has on sentencing outcome. Like other similar studies, there is an important distinction between legal and extralegal factors that play a role in creating sentencing disparities. It is important to control for the differences in types of crime for urban and rural counties. The study operationalizes urbanity as a conglomeration of the percent urban according to the 1980 census, population per square mile according to the 1980 census, and the overall population number. The authors also use court bureaucratization as a control variable; This variable consists of the number of filings per judge, the presence of lower court assistance, and the number of probation officers. Creating this variable is critical in ensuring that the relationship is not caused by court size instead of urbanization. The researchers also control for the crime rate in counties and economic inequality. Ultimately, the findings of the study are complex. Urbanization is found to increase the harshness imposed on defendants who lack power in society; The likelihood of incarceration increases for blacks and decreases for whites when urbanization increases. Urbanization also

increases the harshness imposed on younger defendants. The study concludes with the determination that overall, urbanization increases sentencing disparities. However, it is worth noting that the study examines data from the late 1970s to early 1980s and its application could be limited by its old age (Myers and Talarico, 1986).

Similarly, Austin (1981) uses 1,664 felony cases that resulted in conviction in Iowa to determine the effects of urbanization on sentencing outcomes. Much of the original dataset was eliminated based on lacking convictions. This study provided the benefit of separating out suburban counties as an additional variable. A challenge seemed to be the choice of Iowa for study; the state is whiter than average and can prove challenging for determining racial effects. Ultimately the study draws several conclusions. Compared to urban counties, suburban counties send older people to prison at higher rates. Rural counties send both older people and nonwhite people to prison at higher rates (Austin, 1981).

In their study on socioeconomic status' impact on sentencing, D'Allesio and Stolzenberg (1993) analyze the impact of the urban/rural divide. They find that the type of crime affects the way in which the urban/rural factor impacts sentencing outcome. In rural counties, drug offenders were sentenced more harshly than in urban counties. On the other hand, sexual offenses like incest and sodomy (it was the 1990s) were sentenced more leniently in rural counties as opposed to urban counties. The researchers theorize that there is a difference in moral code that explains these variations. This theory is limited in its applicability today because the theorized moral codes were from over 25 years ago. It is likely that moral codes have changed since then in both urban and rural settings. Additionally, specific moral codes may be regional. Rural counties in Florida could be different from rural counties in North Carolina. Even with the limitations of this study's urban/rural findings, the theory it proposes has plausibility (D'Allesio

and Stolzerberg, 1993). The theory also aids in the continued development of the blameworthiness theory because D'Allesio and Stolzenberg (1993) find that different regions have different concepts of who blameworthy defendants are.

Political Context

There will likely be some variation among judicial districts. Some of that variation is expected to be caused by the political leaning of the localities. In North Carolina, judges and District Attorneys are elected within these judicial districts, thereby becoming political figures subject to elections and the will of the people. It is also clear that Democrats and Republicans have different views when it comes to criminal justice (Chammah, 2016). Therefore, this study will examine the effect of districts' political context – measured by the share of Trump vote in the 2016 presidential election – as a variable of the political context for each district. Based on the prior research, it is expected that defendants in higher Republican districts will receive harsher sentences. This outcome is expected because of conservative ideas of individual responsibility for one's actions and their general outlook on criminal justice policies and blameworthiness.

Huang et al. (1996) investigate the question of the impact of political context on sentencing outcomes. The researchers use data of violent felonies in Georgia between 1981 and 1989. The study uses presidential elections at the time to operationalize the political leaning of the locality. Also, caseload size and court location, among other factors, are used to further specify the judicial district and account for legal factors that could explain the variation in sentencing between judicial districts. The results of the study demonstrate clearly that increases in the Republicanism of the district lead to increases in sentencing harshness. The only

exceptions to this that were found were for homicide and rape cases. The researchers theorize that these offenses are viewed so negatively and blameworthy in both political contexts, that sentencing is not significantly different. In addition, when researchers created an interaction variable with conservatism and number of convictions, they found evidence that for some crimes more Republican districts sentence defendants with more convictions harsher than those with fewer; The gap between defendants with more convictions and defendants fewer convictions grows. The researchers explain this variation by the nature of robbery having a wider range of consequences than violent crimes. Some robberies are large while others are less serious (Huang et al., 1996).

In their study, Helms and Jacobs (2002) look at 337 jurisdictions in seven states across the country to determine if politics explains disparities in harshness of sentencing. The findings of the study do indicate that the political context plays a role in creating sentencing disparities. Mainly, in districts that are largely Republican (often those that believe in law-and-order policies), the race effect is greater; black defendants are sentenced disproportionately harsher than white defendants. Similarly, men are found to be sentenced harsher in more conservative areas (Helms and Jacobs, 2002). Following up on this study, Helms and Costanza (2010), which will be discussed further in the following section, find similar results supporting the significance of political context in sentencing.

Judicial District Racial Composition

A final location factor that is expected to have an impact on sentencing harshness is the judicial district's racial demographic composition. North Carolina's counties racial makeup is not perfectly correlated with population size. For example, among urban counties the white

population in Durham County is 42% as opposed to Wake County, which is 62% white. Meanwhile among counties with smaller populations, Robeson County has a 27% white population³ while Clay County is 95% white (*Carolina Population Center*, n.d.). Variation of racial composition will likely have an impact on the way that the race effect occurs in the county. Since the court system like the District Attorney and judges are beholden to the public through elections, the racial demographics likely impact the makeup of key players in the criminal justice system. For the purpose of this study, racial demographics are combined within judicial districts because judicial elections happen within districts. It is theorized that different racial composition leads to the election of officials with more representative criminal justice ideologies. The concept of blameworthiness is expected to be altered. It is therefore necessary to investigate the effect of racial composition based on judicial districts as opposed to counties. Based on the limited studies that have been conducted on this topic, it is expected that judicial districts with larger minority populations will sentence defendants, particularly black defendants, less harshly. In addition, the districts with larger minority populations will sentence defendants more equitably across the race factor.

Helms and Costanza (2010) attempt to understand the effect of racial composition of counties based on a dataset of felony drug cases from 1990. The population of blacks in counties was found, and the natural log values were used in the study. The data investigated in the study is from seven different states across the country; the states are not easily able to be grouped based on any factor. The study also employs legal and extralegal factors as controls. In addition to looking at the black population in each county, the study also uses data that identifies the percent

³ Robeson County has the highest American Indian population in North Carolina at 38%. Unfortunately, sentencing harshness experienced by Native Americans was unable to be studied in this essay because of population size.

Republican vote in each county to incorporate the political factor. Both the racial composition and political context variables are particularly examined under the condition that the defendant is black; This allows the study to look at the effect of the political and racial composition of localities on black defendants as opposed to defendants of all racial groups. Ultimately, the study finds that black defendants in higher Republican areas are sentenced more harshly than other types of defendants. In addition, black defendants are treated disproportionately harsher in counties with a smaller percentage of nonwhite people (Helms and Costanza, 2010). However, as was previously discussed, Ulmer and Johnson (2004) find the opposite. They show that counties with larger black populations sentence black defendants harsher than counties with smaller black populations (Ulmer and Johnson, 2004).

4.1b Legal Factors

Unlike identity characteristics, legal factors can lead to disparities in sentencing. People with a larger history of criminal activity are able to be sentenced differently than people with a smaller criminal activity. Similarly, people who commit a more serious crime are able to be sentenced differently. North Carolina's Structured Sentencing Policy accounts for these legal factors by codifying them into the sentencing grids. Horizontally, the sentencing grids account for prior criminal history through ranges of prior record points. Vertically, the grids sort crimes based on offense levels determined by the Sentencing Commission.

Prior Criminal Record Points and Offense Severity

The two legal factors for disparity in sentencing outcomes, prior criminal record points and offense severity, will be discussed together because they work in similar ways. Additionally, much of the prior research looks at both variables' joint impacts on sentencing. As was discussed in section three on background, prior criminal record points and offense severity are the only legal factors for sentencing discernment. These two factors are baked into the sentencing law in the punishment grid as the two variables that make up the grid's rows and columns (*NCJS*, 2018). Defendants charged with higher offense classes are eligible for longer sentences because the Commission determined which crimes were more severe than others. The logic is that worse crimes like murder deserve more serious punishments than more minor crimes like pickpocketing. Similarly, defendants with more prior criminal record points are eligible for longer sentences. The Commission viewed prior criminal record as a determinant of future risk to society and evidence of incorrigibility. All in all, the Commission found that offense classification and prior criminal record were the factors that legally represent a defendant's blameworthiness (Lubitz, 1993).

Many of the previously discussed studies control for the defendant's prior criminal history and offense class. These studies proved that having a more extensive prior record and higher offense class lead to larger punishments overall (Albonetti, 1997; Bickle and Peterson, 1991; Brennan, 2008). Clearly, these two factors play a significant role in determining the length of sentencing, but what role do they play in the harshness relative to the defendant's risk? Two studies provide detailed results on prior criminal record and offense class' impact on sentencing harshness in the form of upward and downward departures.⁴ Kramer and Ulmer (2002) focus on

⁴ Upward and downward departures are not available in North Carolina. They are different than aggravating, presumptive, and mitigating ranges, and they can be used as a measure of harshness more similar to the harshness variable used in this study than sentencing months used in prior research.

offense class and criminal history in their study to determine these factors' impacts on sentencing outcomes. The study finds that for Pennsylvania's violent offenders, having a larger prior record makes the defendant more likely to receive a downward departure. For every additional prior criminal record point a defendant has, they are 1.3 times more likely to receive a downward departure. Additionally, for every single level increase in the offense class, the odds that a defendant receives a downward departure (a less harsh outcome) increases by a magnitude of 1.5. However, when an interaction variable between criminal history and offense severity was created, it was found that there is a reduced likelihood of downward departure. The researchers' findings suggest that defendants in a higher offense class who have fewer points are likelier to receive more lenient outcomes (Kramer and Ulmer, 2002).

In a somewhat contradictory study, Hamilton (2017) determines that in the federal system, having a larger criminal record leads to higher rates of upward departure (harsh outcome for defendant). Hamilton also finds that increased offense classification leads to higher levels of upward departure in the federal system (Hamilton, 2017). Clearly, the research on this topic does not paint a clear picture of either legal factor's effects on harshness. Most studies simply include these factors as controls, and the operationalization of their dependent variables do not allow for studying these factor's effects on proportional harshness.

While it is difficult to rectify these seemingly conflicting studies, there are two important differences between their designs that could explain their results. First, the locality and court types are different. The federal court potentially sentences with different disparities than a state court like that of Pennsylvania. Additionally, while Kramer and Ulmer (2002) focus on downward departures as a measure of sentencing leniency, Hamilton (2017) focuses on upward departures as a measure of sentencing harshness. There is potential for the different results to

have been caused by the fact that one study measures leniency while the other study focuses on harshness. Perhaps higher offense classes and prior criminal record points lead to more polarized harshness outcomes. Ultimately, out of these studies, Kramer and Ulmer (2002) is more directly relevant to my research because of its focus on a state court and state crimes rather than federal court. Therefore, it is expected that defendants with more prior criminal record points and those with higher offense classes will be sentenced harsher because of their increased perceived blameworthiness.

This essay does not use offense class in the regressions because it is baked into the harshness index through the risk equations, as will be discussed in the methods section. One of the two models included uses three regressions to test for sentencing outcomes grouped into three sections based on a defendant's risk level. This study extensively examines the impact of prior criminal record points on the harshness experienced in sentencing as an independent variable in most regressions.

4.1c Semi-Legal Factor

Previously, I have stated that the only legally permissible factors for variation in sentencing were prior criminal record and offense severity. This is true in the sense that the North Carolina's sentencing grid enumerates these factors specifically as legal factors for distinction in sentencing, but offenders are also permitted to be sentenced differently based on plea type. I define plea type as a semi-legal factor because a judge cannot directly sentence someone more harshly because they choose to go to trial. After all, a fair trial is guaranteed under the Constitution. However, plea deals allow people to be sentenced to lesser prison terms than they would have risked if they had gone to trial. Taking a plea deal is an exchange for the defendants'

cooperation, which saves the government resources they would have had to spend on a trial. The prosecution can legally decide to pursue lesser charges or a shorter sentence (Markham, Improper Consideration, 2010). This section will discuss literature and the resulting hypothesis and theory about the semi-legal factor, plea type.

Plea Type

Based on the following literature, it is expected that pleading not guilty will result in harsher sentencing outcomes because of a trial penalty. There are several theories as to why this outcome is expected. Ulmer, Eisenstein, and Johnson (2009) list seven reasons: defendants are rewarded for complying with law enforcement officials, accepting responsibility, reducing the possibility of perjury, limiting the court from hearing negative findings about the defendant, determining that traditional sentences would be too harsh by the prosecutor, minimizing fears by the prosecutor that they will lose their case at trial, and rewarding the maximization of efficiency in an increasingly busy criminal justice system. All of these theories ultimately support a broader theory of blameworthiness being a cause for the court to impose harsher punishment.

Albonetti (1997) examines the role of plea bargaining in the federal system's sentencing laws. Her research emphasizes an investigation of how plea bargains interact with the race factor in order to determine whether there is disparity in the type of defendants that benefit from plea deals. Looking at over 14,000 federal drug cases, Albonetti (1997) first determines that race and sex play a role in sentencing. White people are sentenced less harshly than black and Hispanic people, and women are sentenced more leniently than men. The study also proves that departures from the guidelines have a more significant effect on sentencing disparities than plea deals. This

finding is difficult to generalize onto the North Carolina system, which does not have the same mechanism for downward or upward departures. What is clear is that guilty pleas do play a role in sentencing disparities. The final important finding of this study is that the guilty pleas do not have a significantly difference impact across racial groups. According to the research pleas do not cause a racial disparity: rather, pleas are a more universal phenomenon (Albonetti, 1997).

Ulmer, Eisenstein, and Johnson (2009) attempts to determine whether there is a sentencing disparity between defendants who choose to go to trial and those who plead guilty. Federal cases from 2000-2002 were used to identify whether the system disproportionately rewarded defendants for taking plea deals. The researchers' study combines a quantitative review with 308 qualitative interviews with federal judges. The qualitative element of the study had important findings. 65% of the federal judges the researchers interviewed said that they view a guilty plea as demonstrating remorse. The study also states that the disparities that exist because of plea deals begin much earlier than sentencing. Certain factors make it more likely for a defendant to feel pressured to take a plea deal. The study's results demonstrate that going to trial can create a penalty for defendants when it comes to sentencing. The trial penalty does interact with race and prior criminal history variables. Researchers found that black defendants are slightly better off when it comes to the penalty of the trial, a difference from prior research. Additionally, defendant's with larger criminal records experience more leniency in terms of trial penalties. A theory suggested for these results is that trials humanize the defendant. The article also suggests that there is perhaps a difference between federal and state judges when it comes to sentencing and race. Ultimately, the main takeaway from the study affirms the hypothesis that people are punished for pursuing their right to a trial should they be found guilty (Ulmer, Eisenstein, and Johnston, 2009).

King, Soulé, Steen, and Weidner (2005) assess the differences in sentencing based on whether the defendant opts for a jury trial, bench trial, or plea deal. The researchers' study looked at five states (Pennsylvania, Maryland, Washington, Kansas, and Minnesota) to determine whether a trial penalty existed. These states were selected based on characteristics that made them compatible with the research question. Each had structured sentencing, a sufficient mix of bench trials and jury trials, and databases that allowed for analysis from 1997 to 2004. The article notes that the decision to take a plea deal or to go to trial is not a legal factor in any of the states studied. The findings support the presence of a penalty for defendants who decide to go to trial, and evidence supports the theory that judges are interested in the cost saving aspect of plea deals. The study is not, however, able to make a determination about the difference between a bench trial and a jury trial (King, Soulé, Steen, and Weidner, 2005).

Ulmer and Bradley (2006) also looks at the differences in sentencing outcomes based on a defendant's choice to take a plea deal or take their case to jury trial. The study uses a more specific version of the data from King et al. (2005). Specifically, Ulmer and Bradley (2006) use Pennsylvania court data from 1997-2000. The structure of the study is similar to that of Ulmer, Eisenstein, and Johnson (2009). The study finds that as the offense increases in severity, the impact of the penalty of trial is greater. This finding is theorized to be caused in part by the emotion that a trial creates, particularly for a violent crime. The idea of the trial penalty is found to be true in this analysis as well (Ulmer and Bradley, 2006).

Specifically looking at North Carolina, Abrams and Feckler (2018) conduct a study which determines that pleading guilty leads to less prison time. While the odds of having gone to prison are higher for defendants who take a plea deal, sentence lengths are not as long for these defendants. The researchers are able to determine these findings through a quantitative analysis

of 300,000 cases from North Carolina over a span of 15 years. The study controls for variables like identity characteristics, crime-specific factors, and attorney type. Results show that defendants who do not plead guilty and lose at trial receive a sentence that is half a year longer than comparable defendants who do plead guilty (Abrams and Feckler, 2018). This is a recent result with large implications for defendants in North Carolina.

Ward (2003) discusses the option of an *Alford* plea given to defendants. This type of plea is available because of the Supreme Court holding in *North Carolina v. Alford*. An *Alford* plea allows the defendant to plead guilty while maintaining that they did not commit the crime. Defendants choose this option because for many reasons such as overwhelming evidence from the prosecution or a desire not to go to trial and risk the penalty. Ward (2003) looks at whether this type of plea leads to any preferential outcomes in sentencing. Rather than a quantitative study, this analysis looks at the history and legacy of the *Alford* plea to try and understand how *Alford* defendants are treated. Ultimately, the essay argues that defendants who take *Alford* pleas are at odds with a system that places value on remorse and responsibility. This difficulty to display remorse puts them at a disadvantage, and they often receive harsher treatment in sentencing (Ward, 2003).

4.2 Hypotheses

Considering the prior research and theories, I posit the following hypotheses:

H1. If the defendant is black, then the sentencing outcome will be harsher than if the defendant is white.

H2. If the defendant is a man, then the sentencing outcome will be harsher than if the defendant is a woman.

H3. If the defendant is a black man, they will be sentenced harshest, followed by white men and black women respectively. White women will be sentenced least harshly.

H4. If the defendant is middle aged, then the sentencing outcome will be harsher than if the defendant is very young or very old. The youngest defendants will receive the least harsh sentencing outcomes.

H5. If the defendant is represented by a public defender, then the sentencing outcome will be harsher than if the defendant is represented by a private attorney. If the defendant is represented by a court appointed attorney, then the sentencing outcome will be harsher than if the defendant is represented by a public defender. Being self-represented will produce comparably harsh outcomes to being represented by a court appointed private attorney.

H6. If the defendant lives in a more rural county (a county with a smaller population size), then the sentencing outcome will be harsher than if the defendant lives in an urban county.

H7: North Carolina's thirty district courts are expected to have some random variation in sentencing outcomes.

H8: If the defendant case takes place in a more Republican district, then the sentencing outcome will be harsher than if the defendant was sentenced in a more Democratic district.

H9: If the defendant's case takes place in a district with a smaller minority (larger white) population, then the sentencing outcome will be harsher than if the defendant was sentenced in a district with a larger minority (smaller white) population.

H10. If the defendant has a larger criminal history, then the sentencing outcome will be harsher than if the defendant has a smaller criminal history.

H11. If the defendant is convicted of a higher-level offense, then the sentencing outcome will be harsher than if the defendant is convicted of a lower level offense.

H12. If the defendant pleads not guilty, then they will be treated harsher than if they were to take a guilty plea.

5 Data and Research Approach

The data analyzed in this study is from the North Carolina Administrative Office of the Courts' (NCAOC) database, which collects data on every criminal case in North Carolina. The sample was narrowed down to cases taking place between October 1, 2013 and December 31, 2017. The October date was selected because the updated felony punishment grid went into effect on that date. While the grid did not change significantly, some of the offense classifications of certain crimes were adjusted.

Of the NCAOC database, only defendants who had been charged with high-level felonies (classes A-D) were selected. Filtering the database like this limited the sample to defendants who were only facing prison time. Defendants convicted of A-D level felonies can only receive active prison punishments under North Carolina law. The Class A felony distinction is exclusively for first-degree murder cases. Class B1 felonies include second degree murder and serious sexual

offenses. Class B2 felonies include some second-degree murders, attempted murders, attempted sexual assaults, and human trafficking of children. There are many Class C felonies like serious assaults, manufacturing methamphetamines, and some serious property crimes. Finally, Class D felonies are crimes such as arson, manslaughter, some second-degree sexual assaults, and more robberies and property crimes. While all these crimes are different in nature, they have been grouped by the Sentencing and Policy Advisory Commission into standardized classes. These groupings allow for comparisons and standardization even when the types of crimes are incredibly different. All of the offenses are serious and are associated with long prison sentences.

Cases were also dropped if they had not been closed. The incomplete cases were determined by sorting for those that did not have a date of disposition. After removing cases in which the defendant was not charged with an A-D level felony and those that were incomplete, cases in which the defendant was not black or white were removed. Ultimately, these methods created an overall sample of 9,836 total cases. As will be discussed below, a few regressions were conducted for analysis. In Model 1 approximately 3,800 cases were removed from the analysis because they were missing data about attorney type. The attorney type was recorded in two sections of the NCAOC database: CRRDAT (District Court) and CRRSAT (Superior Court). Some of the data was contradictory, but there were more values present in the District Court column. Therefore, for the purposes of this study I chose to use only District Court data. However, doing so decreased the sample size to 6,040 cases.

A harshness variable was created by comparing the outcome of the punishment with the associated risk. Risk was determined by creating five risk equations, one for each prior criminal record point grouping on the punishment grid (see Figure1). In each risk equation, the largest number of months to which a defendant could be sentenced was selected from the aggravating

range for each offense class level. These values were multiplied by the variable that showed how many cases of each type for which a defendant was charged. For A level felonies which are only eligible for the death penalty or life without parole, a value of 1200 months (100 years) was assigned. The five risk formulas at each prior criminal record level were added to create a conglomerate risk factor. The real punishment the defendant received was divided by the risk factor to find the harshness outcome. Figure 4 shows a spike plot graphing the distribution of sentencing harshness for the cases observed in Models 1 and 2, which will be described later. The harshness indexes are rounded to the nearest five. The spike plot demonstrates two clear spikes at 15 and 80.

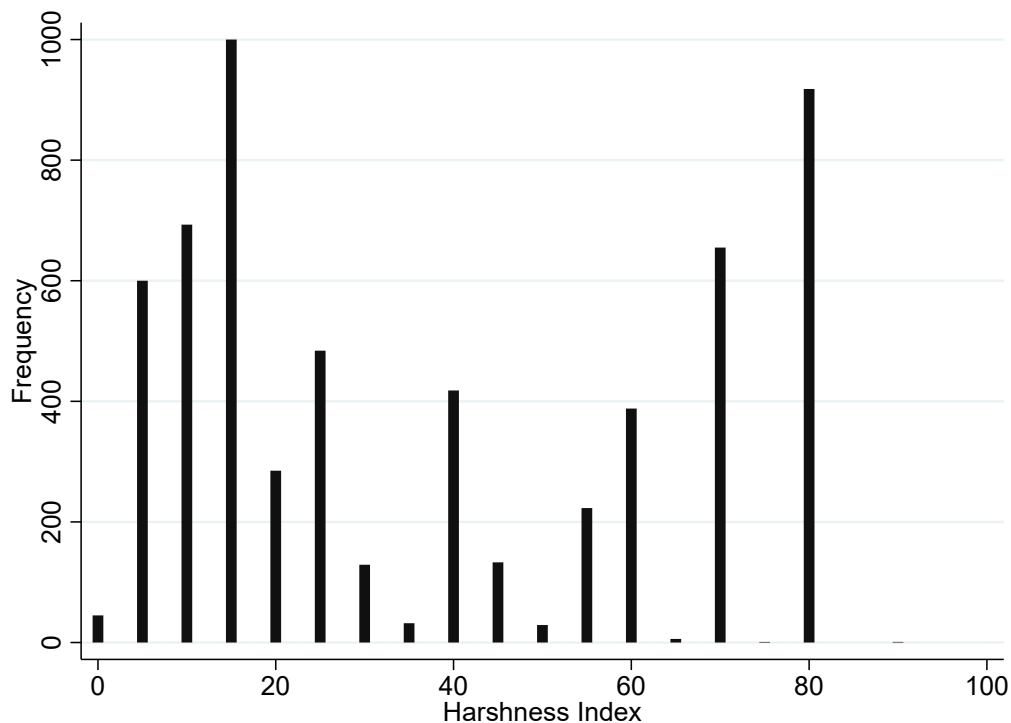


Figure 4. Distribution of harshness outcomes; N=6,040

There are several independent variables included in this analysis. First, prior criminal record points were sorted into groups based on the ranges presented in the punishment grid. A number between zero and five is assigned to each of the ranges with zero representing the smallest prior criminal record point range and five representing the largest prior criminal record point range. Figure 5, displayed below, shows the frequency of cases in which the defendant is in each of the prior criminal record point levels. Clearly, there is a general decline in frequency of cases in the ranges as the point level increases. However, there is an increase in the number of defendants in the 18+ point range (5). Prior points as real numbers are included directly in the NCAOC database, and the variable is named “crdprpt.”

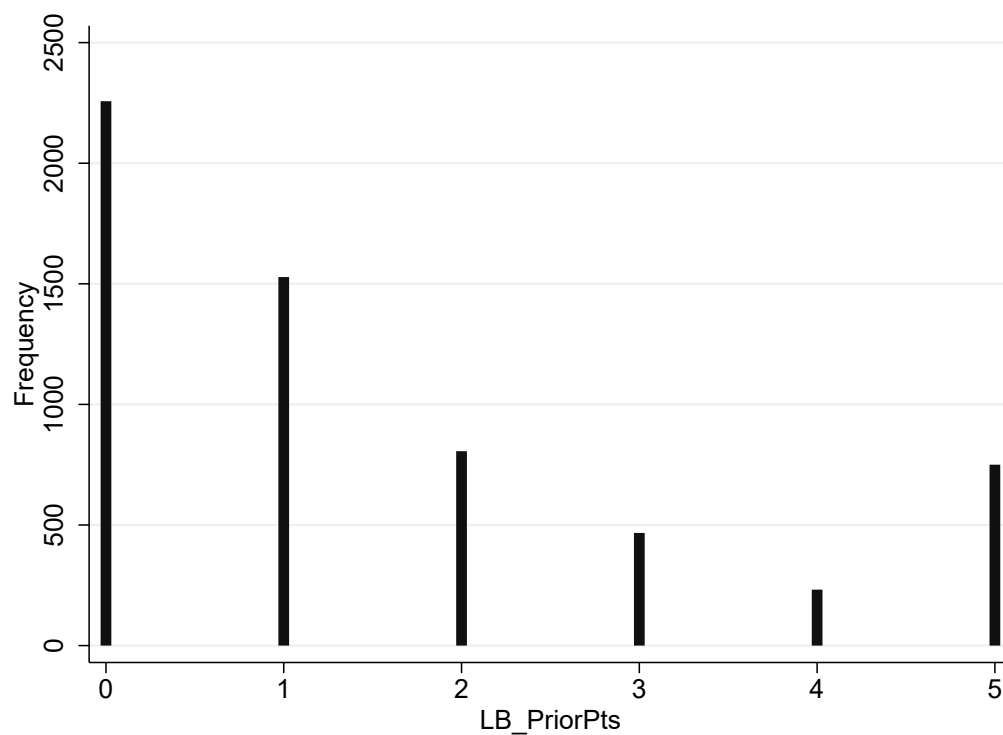


Figure 5. Frequency of cases at each prior criminal record level (N=6,040)

Second, the plea type is an independent variable. The NCAOC database groups pleas into four categories: guilty to lesser, guilty, not guilty, and *Alford* pleas. Each of these pleas were

assigned a number between zero and three (guilty to lesser = 0, guilty = 1, not guilty = 2, and *Alford* = 3). Table 1 shows the frequency of each type of plea for the dataset that includes attorney-type. It is important to note that only 4.72% of the cases included chose to plead not guilty. A second variable was also created by grouping plea types as either a guilty plea (guilty to lesser, guilty, and *Alford*) and not guilty plea. This new variable was named “LB_plea2.”

```
. tab LB_plea if LB_Atty < 4 & LB_RaceBW < 2 & LB_plea < 4 & LB_PriorPts < 10000 & Harsh < 100000 & AgeGroup < 1
> 00 & LB_Dist < 31
```

LB_plea	Freq.	Percent	Cum.
0	2,355	38.99	38.99
1	2,273	37.63	76.62
2	284	4.70	81.32
3	1,128	18.68	100.00
Total	6,040	100.00	

Table 1. Frequency of the types of pleas

Third, variables for the identity characteristics, race and sex, were created. The race variable (LB_RaceBW) groups black and white defendants (white = 0, black = 1). The sex variable (LB_Sex) was also created (female = 0, male = 1). A race/sex interaction variable was made, and each of the four categories were assigned a number between zero and three based on expected harshness (white women = 0, black women = 1, white men = 2, black men = 3). This variable was named “LB_RG4.” While fewer women commit A-D level felonies in North Carolina, there are enough observations to draw statistically significant results. The group with the fewest observations, black women (1), still has over 200 cases.

Fourth, an age variable was operationalized in two ways. One variable (LB_AgeatCrime) is the real number age based on the defendant's date of birth and the date the defendant was charged with the offense. The other operationalization (AgeGroup) creates age ranges to sort the defendants. The ranges are as follows: 15-20, 20-30, 30-40, 40-50, and 50+. There are enough cases within each group to have valid observations. North Carolina, until very recently, automatically tried all 16-year-olds as adults, making them eligible for sentencing under North Carolina's structured sentencing program (Powell, 2017). Figure 6 displays the distribution of ages present in this study. Clearly, there is a rightward skew to the age distribution; most A-D level felonies are committed by young adults.

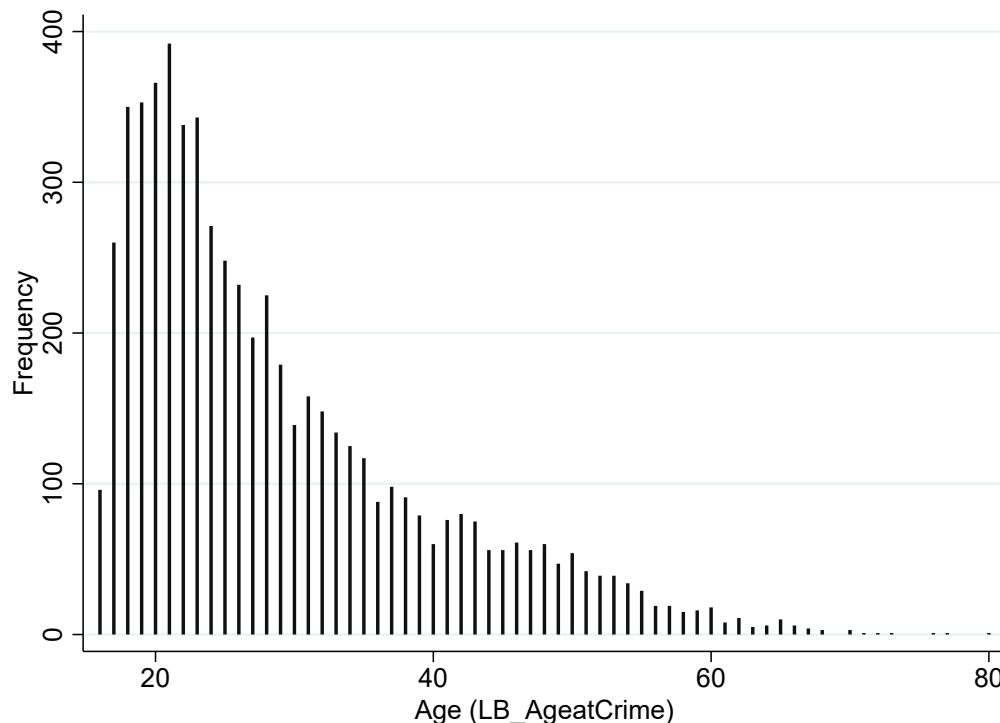
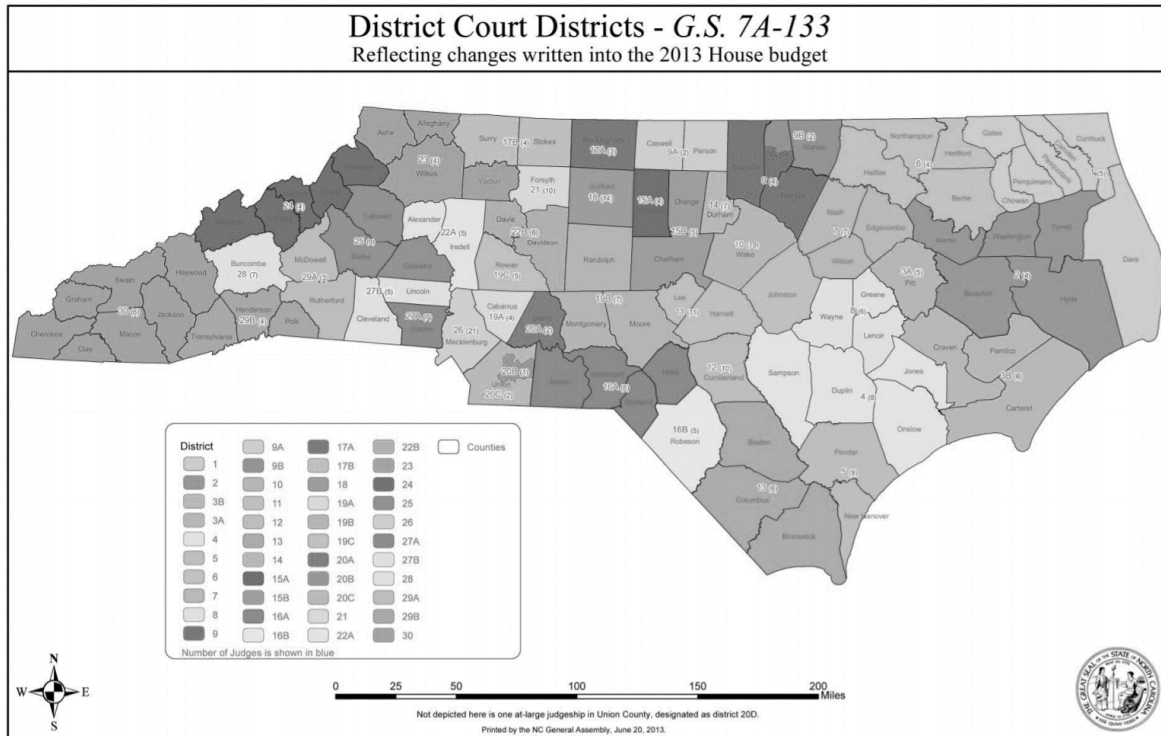


Figure 6. Distribution of ages of defendants studied; N=6,040

Fifth, as discussed above, attorney type is included as an independent variable. The NCAOC database includes four types of legal representation a defendant is eligible to have: privately retained attorneys, public defenders, court appointed attorneys, and defendants who waive their right to an attorney and to self-represent. Each type of attorney was assigned a number between zero and three based on the expected harshness outcome (Private = 0, Public Defender = 1, Court Appointed Private Attorney = 2, Self-representation = 3). Few defendants waive their right to an attorney, but there are enough observations to support this method of grouping.

Sixth, judicial districts were included as a control. A map of the District Courts effective January 1, 2015 was used, and county codes from the NCAOC database was assigned to its respective district (Drennan, 2014). In North Carolina, there are some districts with multiple sections (ex. 9, 9A, and 9B). Some of the functions of the court belong to the individually lettered districts, but some of the power belongs to the overall district (*Judicial Department*; 2008). Two of these districts cut counties into two sections. For this reason, the lettered districts were consolidated into single districts in this study. Overall, there are 30 judicial districts included in this analysis. See Map 1 for reference on the judicial districts.



Map 1. North Carolina District Court Districts. For the purposes of this study, lettered districts were consolidated. District numbers only were used. (Drennan, 2014)

Seventh, the population of each county is included as an independent variable. The county populations were found from US Census data from the 2010 census. The data was matched with the cases' respective county using fips codes, and the new variable was named "pop2010." Population was not used at the district level because the theory behind population is that there are cultural differences between rural and urban areas which impact their definitions of blameworthiness. Because judicial districts group counties of lower population levels, finding the population for the district overall would nullify the urban/rural effect.

Eighth, political context is operationalized as the Trump share of the vote in each district. Dr. Baumgartner provided data listing the Trump vote share per county in North Carolina. Using the county population totals, the total vote share was able to be determined for each district. The

Trump vote share for each district was named as the variable “TrumpDistrictShare.” This variable was imported into the dataset for analysis.

Finally, the district’s racial composition is included. Based on US Census Bureau data obtained from the Carolina Population Center, the county’s racial demographics were able to be discerned. The variable named “PctWhiteDistrict” was created by finding the aggregate percentage of white people in each judicial district. The final three location variables that I discussed (population, Trump share, and percent white) were not run in the regressions at the same time as the judicial district because they cancel each other out.

The effects of offense class are imbedded into the way that harshness is assessed. Therefore, there was no need to include offense class as a separate variable in my regressions. Table 2 (see appendix) describes the operationalization of each of the variables.

6 Results

6.1 Regressions

Many regressions were run for the analysis included in this study. In this section, two Models will be included as figures of focus. The remaining regressions are available in the appendix for reference. The first regression included in this section was run using the independent variables, race-sex interaction, age group, judicial district, prior points, attorney type, and plea type. This regression (Model 1) is the best indicator of the results. Many other regressions were run, but the main findings displayed in Model 1 were generally consistent across the regressions. The results of the first regression are displayed below:

. reg Harsh LB_PriorPts i.LB_plea i.LB_RG4 i.AgeGroup i.LB_Atty i.LB_Dist						
Source	SS	df	MS	Number of obs	=	6,040
Model	2844590.38	43	66153.2647	F(43, 5996)	=	239.60
Residual	1655522.49	5,996	276.104484	Prob > F	=	0.0000
				R-squared	=	0.6321
				Adj R-squared	=	0.6295
Total	4500112.87	6,039	745.175173	Root MSE	=	16.616
Harsh	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
LB_PriorPts	-4.932527	.1390427	-35.47	0.000	-5.2051	-4.659953
LB_plea						
1	.4614374	.5023311	91.86	0.000	45.15899	47.12849
2	.36.4283	1.061044	34.33	0.000	34.34828	38.50833
3	.18.50229	.6321342	29.27	0.000	17.26308	19.7415
LB_RG4						
1	.4617898	1.470647	0.31	0.754	-2.421207	3.344787
2	2.198557	1.020366	2.15	0.031	.1982726	4.198841
3	.8442607	1.023263	0.83	0.409	-1.161702	2.850223
AgeGroup						
20	1.224767	.5898527	2.08	0.038	.0684431	2.38109
30	1.12915	.7493366	1.51	0.132	-.3398193	2.598119
40	2.210722	.8960764	2.47	0.014	.4540904	3.967354
50	2.081806	1.055907	1.97	0.049	.011849	4.151763
LB_Atty						
1	1.315926	.9913407	1.33	0.184	-.6274582	3.259311
2	1.620863	.9058718	1.79	0.074	-.1549719	3.396697
3	.2772207	1.517578	0.18	0.855	-2.697777	3.252219
LB_Dist						
2	3.950794	2.776686	1.42	0.155	-1.492509	9.394097
3	2.43615	2.408316	1.01	0.312	-2.285016	7.157315
4	5.749591	2.483283	2.32	0.021	.8814637	10.61772
5	2.950455	2.42868	1.21	0.224	-1.810631	7.711541
6	-3.53343	3.074327	-1.15	0.250	-9.560217	2.493358
7	-6.673724	2.633387	-2.53	0.011	-11.83611	-1.511338
8	-5.945056	2.64487	-2.25	0.025	-11.12995	-.7601603
9	-1.363408	2.645067	-0.52	0.606	-6.548691	3.821874
10	1.692123	2.333055	0.73	0.468	-2.881505	6.265751
11	.9479487	2.483608	0.38	0.703	-3.920816	5.816714
12	-.0511658	2.353811	-0.02	0.983	-4.665483	4.563151
13	1.868009	2.726553	0.69	0.493	-3.477015	7.213033
14	3.211902	2.604427	1.23	0.218	-1.893713	8.317516
15	.2304626	2.579507	0.09	0.929	-4.8263	5.287225
16	3.880636	2.55095	1.52	0.128	-1.120144	8.881416
17	-1.731491	2.779252	-0.62	0.533	-7.179825	3.716843
18	1.205458	2.332661	0.52	0.605	-3.367398	5.778313
19	-.8370336	2.394678	-0.35	0.727	-5.531464	3.857396
20	-.4005923	2.662647	-0.15	0.880	-5.620339	4.819154
21	2.658889	2.456039	1.08	0.279	-2.15583	7.473608
22	1.323298	2.523639	0.52	0.600	-3.623942	6.270538
23	-2.115607	3.106014	-0.68	0.496	-8.204513	3.973298
24	3.776969	3.07365	1.23	0.219	-2.248489	9.802428
25	4.005061	2.760358	1.45	0.147	-1.406233	9.416355
26	2.423974	2.31517	1.05	0.295	-2.114592	6.96254
27	.4153263	2.429437	0.17	0.864	-4.347244	5.177896
28	-.0552232	2.795274	-0.02	0.984	-5.534966	5.424519
29	2.119798	2.838156	0.75	0.455	-3.444008	7.683605
30	-.5811697	3.34371	-0.17	0.862	-7.136044	5.973705
_cons	17.86827	2.572886	6.94	0.000	12.82449	22.91205

Model 1. Includes variables, Race x Sex, Age Groupings, Attorney Type, Judicial District, Prior Criminal Record Points, and Plea Type); N = 6,040

The second model was run in order to observe the results of the regression for different ranges of defendants' risk. The risk variable was separated by generating a new variable (LB_RiskL) and cutting the data into four categories based on the distribution of risk scores. The minimum risk that defendants face if they are charged with an A-D level felony is 80 months in prison. This is the number of months a defendant is sentenced to if the defendant has 0-1 prior criminal record points, is convicted of a D-level felony, and receives the highest end of the aggravated range. Three regressions were run, one for defendants with the lowest risk of people facing A-D charges, one for defendants facing lower risk, one for defendants with medium risk, and one for defendants with the largest risk. The ranges of risk used in Model 2 are 80-120 months in prison, 120-185 months, and over 185 months. The same independent variables were included in Model 2 as in Model 1. The regressions included in Model 2 are included below, and they are labeled Regression 2.1, 2.2, and 2.3:

Regression 2.1 Low Risk Defendants (Facing 80-120 months in prison); N=3,004

. by LB_RiskL: reg Harsh LB_PriorPts i.LB_plea i.LB_RG4 i.AgeGroup i.LB_Atty i.LB_Dist

-> LB_RiskL = 80

Source	SS	df	MS	Number of obs	=	3,004
				F(43, 2960)	=	158.02
Model	1734017.72	43	40325.9934	Prob > F	=	0.0000
Residual	755362.513	2,960	255.190038	R-squared	=	0.6966
				Adj R-squared	=	0.6922
Total	2489380.23	3,003	828.964445	Root MSE	=	15.975

Harsh	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
LB_PriorPts	-6.002405	.4376214	-13.72	0.000	-6.860478	-5.144332
LB_plea						
1	52.56943	.6847243	76.77	0.000	51.22685	53.91202
2	48.14653	1.660094	29.00	0.000	44.89147	51.40158
3	18.06666	.8518117	21.21	0.000	16.39646	19.73686
LB_RG4						
1	-1.081182	1.840527	-0.59	0.557	-4.690025	2.52766
2	.8476352	1.212092	0.70	0.484	-1.528993	3.224263
3	-.4305497	1.229084	-0.35	0.726	-2.840495	1.979395
AgeGroup						
20	1.994112	.7557147	2.64	0.008	.5123325	3.475891
30	1.400859	1.025609	1.37	0.172	-.6101207	3.411839
40	3.943016	1.398213	2.82	0.005	1.201448	6.684583
50	.9559797	1.689333	0.57	0.572	-2.356406	4.268365
LB_Atty						
1	2.187639	1.280889	1.71	0.088	-.3238851	4.699163
2	2.326213	1.15096	2.02	0.043	.06945	4.582976
3	3.464061	1.956012	1.77	0.077	-.3712209	7.299343
LB_Dist						
2	-.6295271	3.618687	-0.17	0.862	-7.724925	6.465871
3	-1.424255	3.080905	-0.46	0.644	-7.465189	4.616679
4	3.474591	3.219369	1.08	0.281	-2.837837	9.787019
5	3.168659	3.17809	1.00	0.319	-3.062832	9.40015
6	-5.277134	3.873572	-1.36	0.173	-12.8723	2.318033
7	-10.08501	3.388897	-2.98	0.003	-16.72985	-3.440182
8	-6.127297	3.463182	-1.77	0.077	-12.91779	.6631917
9	-2.785446	3.425723	-0.81	0.416	-9.502487	3.931595
10	-.6861292	3.018588	-0.23	0.820	-6.604874	5.232615
11	-1.613591	3.178618	-0.51	0.612	-7.846116	4.618933
12	-.749839	3.105353	-0.24	0.809	-6.838709	5.339031
13	-1.359439	3.456056	-0.39	0.694	-8.135955	5.417076
14	-.4442379	3.419719	-0.13	0.897	-7.149506	6.26103
15	-.2278026	3.430147	-0.07	0.947	-6.953518	6.497913
16	.7506252	3.360799	0.22	0.823	-5.839114	7.340364
17	-3.668739	3.645213	-1.01	0.314	-10.81615	3.47867
18	-4.907186	3.046181	-1.61	0.107	-10.88003	1.065661
19	-1.764155	3.109551	-0.57	0.571	-7.861256	4.332947
20	-2.959508	3.405774	-0.87	0.385	-9.637432	3.718417
21	-.9181786	3.221381	-0.29	0.776	-7.234552	5.398195
22	.0799701	3.288841	0.02	0.981	-6.368676	6.528616
23	-7.49799	4.180327	-1.79	0.073	-15.69463	.6986515
24	1.68363	4.039878	0.42	0.677	-6.237624	9.604884
25	-.22593	3.606624	-0.06	0.950	-7.297675	6.845815
26	-.5658304	2.974355	-0.19	0.849	-6.397844	5.266183
27	-2.335683	3.144425	-0.74	0.458	-8.501164	3.829798
28	-3.048433	3.677531	-0.83	0.407	-10.25921	4.162344
29	-.1141587	3.688673	-0.03	0.975	-7.346783	7.118465
30	.1423215	4.475111	0.03	0.975	-8.632322	8.916965
_cons	18.04492	3.289007	5.49	0.000	11.59595	24.4939

Regression 2.2 Medium Risk Defendants (facing 120-185 months in prison); N=1,551

-> LB_RiskL = 120

Source	SS	df	MS	Number of obs	=	1,551
Model	658087.219	43	15304.3539	F(43, 1507)	=	86.75
Residual	265849.769	1,507	176.409933	Prob > F	=	0.0000
				R-squared	=	0.7123
				Adj R-squared	=	0.7041
Total	923936.988	1,550	596.088379	Root MSE	=	13.282

Harsh	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
LB_PriorPts	-5.820012	.2028871	-28.69	0.000	-6.217983	-5.422041
LB_plea						
1	38.78062	.8069364	48.06	0.000	37.19778	40.36345
2	29.24336	2.013064	14.53	0.000	25.29465	33.19206
3	17.20082	1.034576	16.63	0.000	15.17146	19.23018
LB_RG4						
1	3.584112	2.874352	1.25	0.213	-2.054043	9.222267
2	1.667177	2.052718	0.81	0.417	-2.359309	5.693664
3	.6116638	2.044663	0.30	0.765	-3.399024	4.622352
AgeGroup						
20	1.600382	1.068225	1.50	0.134	-.4949848	3.695748
30	1.021997	1.237191	0.83	0.409	-1.404801	3.448795
40	1.271576	1.376859	0.92	0.356	-1.429187	3.972339
50	1.978944	1.576062	1.26	0.209	-1.112564	5.070453
LB_Atty						
1	-.2217781	1.754151	-0.13	0.899	-3.662614	3.219058
2	.5551413	1.639263	0.34	0.735	-2.660337	3.770619
3	-5.180276	2.804191	-1.85	0.065	-10.68081	.320254
LB_Dist						
2	.4351016	4.779878	0.09	0.927	-8.940818	9.811021
3	1.810843	4.159358	0.44	0.663	-6.347901	9.969587
4	2.223378	4.236453	0.52	0.600	-6.086592	10.53335
5	-.7690566	4.197155	-0.18	0.855	-9.001942	7.463829
6	-6.634092	6.133433	-1.08	0.280	-18.66506	5.396878
7	-6.981044	4.662281	-1.50	0.135	-16.12629	2.164204
8	-6.863358	4.5692	-1.50	0.133	-15.82602	2.099308
9	-5.674211	4.709635	-1.20	0.228	-14.91235	3.563923
10	-.5606708	4.025187	-0.14	0.889	-8.456233	7.334892
11	-2.378809	4.334289	-0.55	0.583	-10.88069	6.12307
12	.0029477	4.015588	0.00	0.999	-7.873786	7.879681
13	1.778924	4.724399	0.38	0.707	-7.488171	11.04602
14	.0349011	4.341954	0.01	0.994	-8.482012	8.551814
15	-1.773367	4.384443	-0.40	0.686	-10.37362	6.82689
16	3.579821	4.392655	0.81	0.415	-5.036544	12.19619
17	-1.441051	4.666	-0.31	0.757	-10.59359	7.711491
18	-1.490184	4.02376	-0.37	0.711	-9.382949	6.40258
19	-1.491433	4.170926	-0.36	0.721	-9.672869	6.690003
20	.1652894	4.769714	0.03	0.972	-9.190692	9.521271
21	1.007439	4.253608	0.24	0.813	-7.33618	9.351058
22	-3.591733	4.324704	-0.83	0.406	-12.07481	4.891345
23	3.519982	4.911745	0.72	0.474	-6.1146	13.15456
24	-.1302696	5.28722	-0.02	0.980	-10.50136	10.24082
25	-1.549121	4.706262	-0.33	0.742	-10.78064	7.682397
26	.727009	4.034579	0.18	0.857	-7.186976	8.640994
27	-1.199106	4.199768	-0.29	0.775	-9.437117	7.038905
28	-5.939182	4.754809	-1.25	0.212	-15.26593	3.387563
29	.135078	4.905516	0.03	0.978	-9.487285	9.757441
30	-10.73343	5.310334	-2.02	0.043	-21.14986	-.3170045
_cons	29.1967	4.599195	6.35	0.000	20.1752	38.2182

Regression 2.3 High Risk Defendants (facing over 185 months in prison); N=1,485

-> LB_RiskL = 185

Source	SS	df	MS	Number of obs	=	1,485
Model	542805.096	43	12623.3743	F(43, 1441)	=	35.23
Residual	516296.373	1,441	358.290335	Prob > F	=	0.0000
				R-squared	=	0.5125
				Adj R-squared	=	0.4980
Total	1059101.47	1,484	713.680235	Root MSE	=	18.929

Harsh	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
LB_PriorPts	-4.514993	.3049781	-14.80	0.000	-5.113241	-3.916744
LB_plea						
1	40.08526	1.239929	32.33	0.000	37.653	42.51752
2	27.4142	1.947658	14.08	0.000	23.59366	31.23475
3	18.39905	1.500117	12.27	0.000	15.45641	21.3417
LB_RG4						
1	5.073673	3.756732	1.35	0.177	-2.295577	12.44292
2	8.165667	2.957513	2.76	0.006	2.364175	13.96716
3	5.023612	2.966952	1.69	0.091	-.7963962	10.84362
AgeGroup						
20	-.8391984	1.544255	-0.54	0.587	-3.868427	2.19003
30	-.0830252	1.828579	-0.05	0.964	-3.669987	3.503937
40	.7372515	2.016173	0.37	0.715	-3.217697	4.6922
50	2.821289	2.330148	1.21	0.226	-1.749557	7.392136
LB_Atty						
1	1.452086	2.441029	0.59	0.552	-3.336265	6.240436
2	.5148154	2.254108	0.23	0.819	-3.906869	4.9365
3	-2.977449	3.538274	-0.84	0.400	-9.918169	3.963271
LB_Dist						
2	13.27942	6.560735	2.02	0.043	.4098073	26.14904
3	14.31874	5.980618	2.39	0.017	2.587087	26.05039
4	17.31612	6.133499	2.82	0.005	5.284574	29.34766
5	9.540666	5.698157	1.67	0.094	-1.636906	20.71824
6	8.252205	7.1469	1.15	0.248	-5.767238	22.27165
7	.8866326	6.233145	0.14	0.887	-11.34038	13.11364
8	-1.272907	6.197137	-0.21	0.837	-13.42928	10.88347
9	8.346313	6.177923	1.35	0.177	-3.772373	20.465
10	10.6984	5.589678	1.91	0.056	-.2663813	21.66317
11	8.000906	6.06561	1.32	0.187	-3.897464	19.89928
12	7.627626	5.629954	1.35	0.176	-3.416156	18.67141
13	12.99139	6.963162	1.87	0.062	-.6676279	26.65041
14	17.98267	6.368128	2.82	0.005	5.490879	30.47447
15	5.28164	5.991768	0.88	0.378	-6.471881	17.03516
16	11.74798	5.948068	1.98	0.048	.0801833	23.41578
17	1.307061	6.670654	0.20	0.845	-11.77817	14.39229
18	15.86897	5.540804	2.86	0.004	5.000061	26.73787
19	4.196789	5.642632	0.74	0.457	-6.871863	15.26544
20	6.801918	6.355624	1.07	0.285	-5.665347	19.26918
21	14.07365	5.743827	2.45	0.014	2.80649	25.3408
22	11.40537	5.990386	1.90	0.057	-.345446	23.15618
23	-1.784799	7.824838	-0.23	0.820	-17.13409	13.56449
24	12.82004	7.112904	1.80	0.072	-1.132712	26.7728
25	23.17254	6.548644	3.54	0.000	10.32664	36.01843
26	12.04338	5.567171	2.16	0.031	1.122758	22.96401
27	8.691488	5.781813	1.50	0.133	-2.650183	20.03316
28	12.99309	6.547076	1.98	0.047	.1502658	25.83591
29	10.10852	6.714698	1.51	0.132	-3.063114	23.28015
30	14.61136	8.260745	1.77	0.077	-1.59301	30.81574
_cons	8.138461	6.38527	1.27	0.203	-4.386958	20.66388

Model 2. Three regressions grouping common risk factors (low, medium, and high)

6.2 Interpreting Results

Model 1 presents findings that are supported by other regressions, indicating robustness. Additionally, the model's R-squared value of 0.63 shows that the data is somewhat well predicted by the model. There are a few key differences between Models 1 and 2, which is why both are included in this study. Model 2 presents three regressions, Regression 2.1, 2.2, and 2.3. There are slight variations between the results presented in these three regressions and Model 1, and these will be discussed below. The three regressions have smaller sample sizes because the data from which they derive are subsets of Model 1's data. However, the regressions maintain consistently strong R-squared values, demonstrating that the model predicts the outcome of sentencing harshness well like Model 1.

First, one of the most important findings is the substantial role that prior criminal record points play in harshness outcomes in sentencing. This study finds that for A-D felonies, for every single level increase in prior criminal record points, there is a 5% decrease in the harshness outcome. Defendants who have higher criminal record levels may be sentenced to longer prison terms, but the sentences they receive are increasingly more lenient compared with the sentence they were at risk of receiving. This finding is consistent between Model 1 and Model 2. Model 3 (see appendix) displays a regression with showing the results for each prior criminal record point category to see whether this 5% decrease in harshness was consistent across the punishment grid's point levels. This model finds that the 5% decrease in harshness is consistent. As a defendant moves up each prior criminal record category, as defined by the punishment grid, they are sentenced 5% less harshly than they would have been at the lower level.

Second, an important finding of the study is that the type of plea defendants take has statistically significant impacts on the harshness outcome. In both models, pleading guilty to lesser is used as the baseline ($GL = 0$) for analysis. It is found that defendants who simply plead guilty ($GU = 1$) are sentenced about 46% harsher than defendants who plead guilty to lesser.⁵ Additionally, it is found that defendants who plead not guilty ($NG = 2$) are sentenced approximately 36% harsher than those who take a guilty to lesser plea. Finally, some defendants choose an *Alford* plea, maintaining that they are not guilty of the crime but choosing to plead guilty for whatever reason they may have. These defendants are found to be sentenced approximately 18% harsher than those who plead guilty to lesser. Overall, the findings suggest that defendants who plead guilty to lesser receive the least harsh sentences relative to what they were at risk of receiving. Defendants who plead guilty receive the harshest sentences relative to the amount they were potentially eligible to receive. The ranking of harshness outcomes from least to greatest being guilty to lesser, *Alford* plea, not guilty, and guilty is consistent across regressions (see appendix).

Another regression (see Model 4 in the appendix) was run comparing the harshness outcomes for two groups of pleas: defendants who take guilty pleas of any type (guilty, guilty to lesser, and *Alford* pleas). The findings demonstrate that defendants who plead not guilty are sentenced 14% harsher than those who take any type of guilty plea.

Model 1 displays interesting results about identity characteristics. Both models use white women (0) as the baseline. Model 1 finds that white men (2) receive significantly harsher sentences by a factor of 2.2%. This effect seems small when compared to the impact of prior

⁵ For the purposes of this analysis, coefficients from Model 1 will be used. The coefficients are not far from those found in Model 2. The most important aspect of this finding is the consistent order of outcome harshness.

criminal record points and plea type, but there is still found to be a statistically significant disparity in the harshness with which the criminal justice system treats white men as opposed to white women. For high level felonies with long prison terms that span many months, even small percentage changes in harshness can have lengthy implications. There are not found to be statistically significant results for black men and black women. This outcome indicates that for high level felonies in North Carolina, black men and black women are not treated statistically harsher than white women. These race/sex findings are consistent across the various regressions conducted, demonstrating robustness.

Model 2's results about the race/sex interaction are important to compare to Model 1's findings. While most of the regressions overall yield results similar to those found in Model 1, the three regressions in Model 2 show different race-sex interaction results than Model 1. For defendants with low risk and medium risk, there is not found to be any statistically significant disparity in harshness experienced based on the race-sex interaction term. However, for defendants facing the largest risk outcomes, the disparity between white men and white women is very statistically significant, and the coefficient is nearly quadrupled to an 8.2% increase in harshness outcomes for white men. This result means that white men facing charges that could lead to 80-185 months in prison do not have a statistically significant difference in harshness outcomes than white women. However, white men who are eligible for over 185 months in prison are sentenced over 8% harsher than white women.

There is some evidence that race may play a role in sentencing harshness. Model 5 (see appendix) was run to separate the race/sex interaction variable and focus on the race and sex impact individually. The impact of sex is not found to be statistically significant at the 0.05 level. The race factor is significant, and it shows that black defendants are sentenced 1.2% harsher than

their white counterparts. However, the interaction variable is a better way to evaluate the impact of race and gender because it is more intersectional. Defendants do not enter a court room as one factor or the other. Rather, defendants present themselves to the court the collective sum of both race and sex.

The study also finds statistically significant results relating to age of the defendant. There is found to be an increase in harshness of sentencing as the defendant gets older. For Model 1, among the four age groups (20-30, 30-40, 40-50, and 50+), three were found to be significantly different than defendants who are under 20. Defendants who are aged 20-30 are found to be sentenced 1.2% harsher than the youngest defendants. There are not statistically significant results found for defendants aged 30-40. 40-50-year-olds are found to be sentenced 2.2% harsher than defendants who were under 20. Finally, the oldest defendants, those above the age of 50, are found to be sentenced 2% harsher than the youngest defendants. Model 1's results support the hypothesis that there is a curvilinear relationship between age and sentencing harshness, with the youngest defendants sentenced least harshly out of any of the age groups and the oldest defendant sentenced slightly less harshly than the middle-aged group (40-50). However, this leniency towards the oldest defendants is small and is somewhat fragile. The findings which is clear and robust is that overall, older defendants are sentenced harsher than the youngest defendants.

Models 2 demonstrates important results for age that is slightly different than Model 1. These regressions find that among defendants with medium (120-185 months) and high levels (185+ months) of risk, there is no statistically significant difference in sentencing harshness based on the age of the defendant. The first regression in Model 2, however, shows that for defendants with the lowest risk in sentencing (80-120 months), there are statistically significant

results relating to age. Defendants with the lowest risk who are 20-30-years-old are sentenced 2% harsher than defendants who are under 20. Additionally, defendants with the lowest risk who are 40-50-years-old are sentenced 4% harsher than those who are under 20. These results indicate that most of the disparity based on the defendant's age occurs for those eligible for shorter sentences within the A-D level felony ranges. Model 2 maintains the main takeaway finding that the youngest defendants are sentenced the most leniently.

Age is an interesting variable to examine because it is expected that it would interact with the prior criminal record points of the defendant. Surely the older a defendant is, the higher the likelihood that they have a larger number of prior criminal record points. Multiple regressions were run removing prior criminal record points in order to test the robustness of the age findings. Were the findings simply a result of prior record points, or is age really a factor in sentencing?

One such regression, Model 6 (see appendix), ran the test assuming that prior criminal record points were nonexistent in North Carolina's sentencing policy. The risk equation counted every defendant's possible maximum sentence as if they had zero prior criminal record points. Using this new risk variable, harshness was determined similarly to the other regressions. The prior points variable was included as a control in the form "crdprpt," which lists the real number of points a defendant has as opposed to the grouping on the punishment grid. This choice was made because assuming every defendant was sentenced under the guidelines for zero prior criminal record points removed the impact of the point groupings according to the sentencing grid. Ultimately, only one of the three age groups were still found to be significant at the 0.05 level. 40-50-year-old defendants are found to be sentenced 2.2% harsher than those under 20. Two of the other age groups (30-40 and 50+) were found to be significant at the 0.1 level only. The 50+ age group had a significant of 0.054, making it marginally significant. The results of

this model show a harsher impact coefficient for each age group, but it runs into the issue of significance. Clearly, the age effect in sentencing is largely fueled by prior points, but there still seems to be some effect that allows younger defendants slightly more leniency. The problem of age and prior criminal record points is displayed in Table 3 below. The youngest defendants, aged 15-20, do not often fall in the medium-high point ranges (3 and 4). Only three such defendants were observed in these two prior criminal record point categories. This fact has the potential to impact the findings of the study because not many observations are able to be used as comparisons for the youngest age group for defendants with high levels of prior points.

LB_PriorPts	AgeGroup					Total
	15	20	30	40	50	
0	844	935	258	116	104	2,257
1	251	805	291	117	64	1,528
2	51	456	172	91	36	806
3	2	217	140	72	36	467
4	1	64	81	62	24	232
5	90	214	185	169	92	750
Total	1,239	2,691	1,127	627	356	6,040

Table 3. Frequency of defendants in each age group with each level of prior criminal record points

A control for judicial district shows that while most districts are found to not be statistically significant in the variation harshness, there are a few districts which are consistently statistically significant. For this analysis, the district numbers presented in the regressions correspond with the real judicial district numbers in 2015. District 1, located in the northeastern corner of the state, serves as the baseline because of numerical order. District 4 punishes defendants 5.75% harsher compared to District 1. District 4 is comprised of Duplin, Jones, Onslow, and Sampson Counties, and it is in the southeastern section of the state. Two districts, 7 and 8, sentence their defendants significantly more leniently than District 1. District 7 sentences

defendants 6.67% more leniently, and District 8 sentences defendants 5.95% more leniently than District 1. District 7 includes Edgecombe, Nash, and Wilson Counties, and is located just northeast of the Triangle. District 8 is comprised of Greene, Lenoir, and Wayne Counties and is located just south of District 7. All of these districts are in the Eastern half of the state between the Triangle and the beach. See Map 1 as reference of the judicial districts.

Regressions were run with the other location factors (county population, political context, and racial composition) instead of the judicial districts (see Model 7 in the appendix). None of the regressions yielded statistically significant results. The county's population yielded marginally significant results (significant at the 0.1 level but not the 0.05 level). However, these results demonstrated a coefficient extremely close to zero. Ultimately, it is fair to say that the county's population (a measure of the urban/rural divide), the district's political context (operationalized as the share of the Trump vote), and the district's racial composition (operationalized as the percent white), have no significant impact on the harshness experienced at sentencing.

7 Discussion

This study expands on prior literature through its scope, its different method of operationalizing sentencing harshness, and its various independent variables. Very little prior research has investigated North Carolina's structured sentencing policy quantitatively. The research in this study builds off the few studies that analyze sentencing disparities in North Carolina (Horton, 2005; Brennan, 2008; Abrams and Feckler, 2018), and this study expands on their scope by looking at the highest-level felonies specifically. The operationalization of sentencing harshness outcome allows for improved analysis of North Carolina's system. While

most of the prior studies have operationalized sentencing outcomes as whether the defendant received active imprisonment and how many months they received, this study takes an approach that allows for better comparisons across types of crimes. This study focuses on high A-D level felonies, so there are not potential sentences other than active prison time. Additionally, this study creates a harshness index in which sentencing outcomes are compared to the risk a defendant faced in sentencing.

It is difficult to simply compare months of a prison sentence when defendants are convicted of different offense classes and when defendants are convicted of more than one offense. For example, if a defendant with zero points is charged with two B1-level felonies and one D-level felony, they are eligible for up to 680 months in prison. If another defendant with no points is charged with one D-level felony, they are eligible for up to 80 months in prison. Yet, if the first defendant receives 326 months in prison and the second defendant is sentenced to 70 months in prison, the first defendant is better off compared with their risk. The first defendant's sentence was just 48% of their risk. The second defendant did not fare as well and was sentenced to 88% of their risk. Clearly, comparing sentencing outcomes this way allows for a more individualized approach and creates a better ability to compare outcomes. The harshness index provides the ability to analyze wider varieties of crimes at once.

In addition to these improvements in methods, this study compares the impact of many independent variables on sentencing harshness. While many prior studies focused on a single variable of analysis such as race, sex, etc., this study takes a broader approach and includes analysis of many potential factors in sentencing. Extralegal factors including identity characteristics and location factors are included in analysis. Additionally, legal and semi-legal

factors are included. Focusing on many variables in analysis allows for more controls which improve the degree to which accuracy and robustness can be assessed.

The results of this study suggest that there is a negative relationship between prior criminal record points and the harshness with which the court system treats defendants in sentencing. The study finds that there is a decrease in 5% harshness with every increase in level of prior criminal record point groupings. This is a particularly important finding because it indicates that a disparity in harshness exists because of the standardization efforts in North Carolina's structured sentencing laws. As has been discussed in Section 3 of this essay, North Carolina's law creates different columns for sentencing based on ranges of defendants' prior criminal record points. As the number of prior criminal record points increases, the sentencing range increases in months to become more severe. The logic behind the law is that offenders who reoffend are more likely to be a risk to the community, and they need longer prison sentences to try and fix their habit of offending (Lubitz, 1993). However, the findings of the study indicate that the court system changes its sentencing practices because of the law. Decreasing harshness as prior criminal record points increase does not equate to decreasing sentence lengths. Rather, as harshness decreases the sentences defendants receive as opposed to the sentences that they are at risk of receiving proportionally decrease. Defendants sentenced at the highest level of prior criminal record points (18+ points) are sentenced 25% less harshly than defendants in the lowest range of prior criminal record points (0-1).

These findings on prior criminal record points are similar to those found in similar studies like Kramer and Ulmer (2002), which show that in the federal system, increasing prior criminal record points also increases the odds that a defendant receives a downward departure (a less

harsh sentence).⁶ One theory is that the court is less comfortable sentencing defendants to the higher end of the sentencing ranges as the number of months in the range increases. It seems that the court system does not view defendants with higher prior criminal record point levels as having the same blameworthiness as the Commission ascribed them when assigning sentencing ranges for various point levels. As a hypothetical example, if two defendants are convicted of exactly the same B1 felony, the judge would have to sentence one under a range of 190-240 months in prison and another 386-483 months. The results of this study indicate that the judge is more likely to sentence the defendant with 18+ points closer to the lower end of the range (386 months), and more likely to sentence the defendant with 0-1 points closer to the upper end of their range (240 months). While the structured sentencing law was intended to lengthen the sentences of defendants who commit high level crimes and have high levels of prior criminal record points, it is found that the court may proportionally lessen the harshness with which defendants with higher prior points are sentenced. The findings on prior criminal record points were relatively consistent across the three regressions in Model 2, demonstrating that regardless of the severity of risk the defendant was facing, the prior point effect was the same. This result refutes Kramer and Ulmer's (2002) finding that offense severity and prior criminal record effects were linked.

The type of plea is consistently found to be extremely important in determining the harshness of outcome. As discussed, if the goal of the defendant is to be sentenced less harshly relative to their risk, pleading guilty to lesser is the best option. All other types of pleas result in significantly harsher sentencing outcomes. *Alford* pleas are the next best option. This finding

⁶ Kramer and Ulmer (2002) shows that individually prior criminal record increases lead to increases in downward departure. However, in an interaction variable with offense class, more lenient outcomes decreased.

about *Alford* pleas disagrees with the results of Ward's (2003) qualitative evaluation of the *Alford* plea. While Ward (2003) suggests that it may be in a defendant's best interest to simply plead guilty rather than use an *Alford* plea, this study finds that pleading guilty leads to defendants receiving the harshest possible outcomes relative to the risk they face. It is probable that Ward (2003) combines guilty pleas with guilty to lesser pleas, which may have an impact on how the outcomes compare to *Alford* pleas.

Evidence from this study confirms that there is a trial penalty, as was presented in the research (King, Soulé, Steen, and Weidner, 2005; Abrams and Feckler, 2018; Ulmer and Bradley, 2006). While only a few hundred cases included in the sample pled not guilty, there is a clear and consistent effect of pleading not guilty. Relative to the risk, the harshness of the outcome is only slightly worse than if a defendant were to plead guilty to their actual charges. Additionally, Model 4 shows that defendants who plead not guilty are sentenced 14% harsher than defendants who take any type of guilty plea overall. The findings about plea deals support the hypothesis that defendants who plead not guilty will be worse off. Therefore, all of Ulmer, Eisenstein, and Johnson's (2009) seven-part theory, which expands upon causes of blameworthiness based on plea type, are plausible causes of the sentencing disparity.

The findings about identity characteristics confirm some hypotheses and contradict others. The finding that white men are sentenced harsher than white women relative to their risk was largely expected based on the hypothesis that men are sentenced harsher than women because of paternalist chivalry (Bickle and Peterson, 1991; Tillyer et al., 2015). However, what was unexpected is that white women, black women, and black men are not sentenced significantly differently. The findings contradict the hypothesis that overall women will fare better in the court system. Additionally, the findings show no relationship between race and

sentencing outcomes, even though many prior studies show that black people receive harsher sentences than white people (Hamilton, 2017; Mustard, 2001; Kutateladze et al., 2014; Horton, 2005; Brennan, 2008; Steen et al., 2005; etc.). As is shown in Model 5, separating race and sex even shows slightly more lenient outcomes for black people as compared to white people. Clearly, this study rejects the hypothesis that black defendants are treated more harshly for A-D level felonies in North Carolina. When sex was separated from race in Model 5, however, the results were not significant at the 0.05 level. This finding does not allow us to accept the hypothesis that men will be sentenced more harshly than women overall. Perhaps because all of the defendants in this study are convicted of high-level felonies, the evil woman theory is valid. While by itself sex had no significant effect, the combined interaction variable is able to find disparity caused by sex, but the result is only present for white defendants. White men are treated harshest relative to their risk in A-D level felonies. This finding does not inherently reject the theory of blameworthiness. Rather, it necessitates a reevaluation of who North Carolina's courts consider blameworthy. Further exploration at different offense levels would allow for a better understanding of whether this phenomenon was consistent. If so, perhaps North Carolina's courts view white men as the most blameworthy category of defendant.

Based on the analysis, this study confirms the hypothesis that age plays a role in sentencing. Findings support the theory that the youngest defendants are viewed as least blameworthy and are sentenced least harshly. It was expected that prior criminal record points could have an impact on the outcome of the age factor because older people have had more opportunities to accrue prior criminal record points. Prior criminal record points do seem to play a large role in the sentencing disparity of age. However, there is evidence that age is still somewhat responsible for this disparity, and that older defendants are sentenced harsher than the

youngest defendants. This study largely confirms the findings from prior research that age is a factor in sentencing outcomes, with the youngest offenders being treated more leniently than older offenders (Ryon et al., 2017). It is possible that brain development research plays a role in the concept of blameworthiness for the age effect because young people are viewed through a less harsh lens (*MGHCLBB*, 2012).

This study shows that the attorney type does not ultimately affect the harshness outcome in sentencing. There was essentially no evidence that the attorney type significantly affected the harshness defendants experienced at sentencing. This was a surprising outcome, and it contradicted the hypothesis created through the literature review (Anderson and Heaton, 2012; Champion 1989). While there are not many prior studies about the impact of attorney type on sentencing outcomes, the few I was able to find lent themselves to the hypothesis that my results rejected. Rather, this study accepts the results found in Hashimoto (2007) that there is not a significant difference between court appointed private attorneys and self-representations. However, this study takes that result a step further and finds that there is no statistically significant result regardless of the type of attorney retained. The theory behind the attorney hypothesis is that the incentive structure causes some attorneys to work harder on cases than others. This theory has not been outright disproven because different attorneys may be place different effort into their clients' defenses based on the resources available to them and the incentive structure they have. However, in this sample there is no significant effect of the type or quality of defense. Future research should pursue this finding at different levels in North Carolina to compare. Perhaps this result is only present for cases of A-D level felonies. Overall, A-D level defendants are not viewed as more blameworthy based on the type of attorney they have.

This study presents interesting results about location factors. The regressions showed that there is variation in a few judicial districts in sentencing harshness. There are two districts where defendants fared better than average and one where defendants were punished more harshly. North Carolina's judicial system, while localized by districts, is supposed to be a state entity that operate fairly across the board. The results of this study report that this is overall true. Most judicial districts do not sentence A-D level felony defendants significantly differently than each other. However, some extralegal variation does exist. The hypothesis that judicial districts would sentence defendants with some random variation is largely denied. Out of the thirty districts, only three are outliers in sentencing harshness.

Additionally, the hypotheses about the other location factors were all refuted by this study. There is no significant effect found for population, political context, or racial composition. This is understandable seeing as the districts are relatively consistent in sentencing harshness overall. Generally, this study shows that North Carolina's courts do not carry out the law differently depending on whether they're urban or rural, Republican or Democratic, and predominantly white or less white. This is a promising result for the state to know that the law is being carried out relatively consistently. This study shows that blameworthiness of defendants does not significantly change based on any of the factors of locality that this study examined. Further research could investigate the three districts that do present variation to better understand why the disparity exists.

Future research should continue to quantitatively evaluate North Carolina's structured sentencing system. This study was limited by the scope of the data recorded by the North Carolina Administrative Office of the Courts. Three important factors in particular were unable to be examined because of lacking data. First, colorism has been studied as a factor in sentencing

disparities in the past. Burch (2015) uses data from Georgia to investigate skin color's impact on sentencing. Skin color was grouped into three categories: dark skinned, medium skinned, and light skinned. Evidence points to the conclusion that colorism plays an important role in the sentencing disparity with dark skinned people receiving harsher sentences than those with medium skin and those with medium skin receiving harsher sentences than those with light skin. This analysis is an expansion of the theory behind race's impact in sentencing.

Second, education level has been available in some studies and has been found to have links to sentencing outcomes. Education has been found to have a negative relationship with sentence length (Mustard 2001; Brennan 2008; Albonetti 1997). Finally, socioeconomic status has been studied in prior research and would be interesting to look at in terms of its effects on sentencing harshness. Miethe (1985) found that even after Minnesota passed a structured sentencing law, there were still lingering effects through which people of lower socioeconomic classes were sentenced more harshly than those of higher socioeconomic classes. D'Allesio and Stolzenberg (1993) also studied this phenomenon, finding that the type of crime matters in the relationship between socioeconomic status and sentencing outcomes. Ultimately, the researchers found that for some crimes, as socioeconomic status increases, sentencing harshness decreases. All three of these variables would be interesting to incorporate into further research if they are available.

8 Conclusion

North Carolina's structured sentencing policy succeeds in its intention of creating relatively standardized outcomes based on locality. Clearly, across different courts in North Carolina sentencing harshness is consistent except for a few districts. However, there are disparities in

harshness are found within the system. Findings on prior criminal record points indicate that having lower levels of points is a risk factor for receiving a punishment closer to the highest risk possibility for the defendant. The state intended for defendants with higher prior criminal record points to be sentenced to longer terms because of their perceived blameworthiness. While this study does not refute this phenomenon, it does seem that defendants with higher prior criminal record points who are eligible for longer sentences, are receiving proportionally less of those sentences. These results indicate that the court subverts the sentencing recommendations established by the Commission regarding prior criminal points. Additionally, pleading guilty, pleading not guilty, and taking an *Alford* plea are all risk factors for harsher sentencing compared to pleading guilty to lesser. Overall, pleading not guilty is a risk factor compared to any type of guilty plea. The importance of the type of plea underscores the power of prosecutors in North Carolina's sentencing. Taking responsibility in the form of a plea does not seem to reduce a defendant's blameworthiness overall though. Rather, taking responsibility to the government's narrative and being eligible for a guilty to lesser plea deal leads to more lenient outcomes. Being a white man and being older are also found to be risk factors for harsher outcomes. It is possible that North Carolina's courts view white men as more blameworthy for the crimes of which they are convicted. Attorney type does not matter in sentencing harsher. Overall, this study provides interesting results that challenge and expand the blameworthiness theory. Most importantly, the Commission was successful in baking blameworthiness for defendants charged with higher offense classes and prior criminal record points into North Carolina's sentencing law. And, prosecutors have the power to control significant variation in sentencing harshness through the types of pleas they offer.

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Appendix

Table 2. Variable operationalization

Dependent Variable	Operationalization	Data Source	Code
Harshness	Harshness = Real Punishment / Risk Punishment	Real Punishment vs. NC Structured Sentencing maximum sentences	LB_Harsh Harsh = LB_Harsh*100
Independent Variable	Operationalization	Data Source	
Race	Defendant's Race: White = 0 Black = 1	NC Court Database CRRACE	LB_RaceBW
Sex	Defendant's Sex: Female = 0 Male = 1	NC Court Database CRRSEX	LB_Sex
Race/Sex Interaction	Defendant's Race and Sex: White Female = 0 Black Female = 1 White Male = 2 Black Male = 3	NC Court Database CRRACE CRRSEX	LB_RG4
Age	Defendant's Age when Charged: Age Groupings – 15-20, 20-30, 30-40, 40-50, 50+	NC Court Database CROCDT-CRRDOB	LB_AgeatCrime (Precise Age) AgeGroup (Age Groupings)
Type of Attorney	Defendant's Attorney in District Court: Privately Retained Attorney = 0 Public Defender = 1 Court Appointed Attorney = 2 Waived/Self-Representation = 3	NC Court Database CRRDAT	LB_Atty
Judicial District	Number of the Judicial District in 2014: Districts in which there are multiple sections (i.e. 9A and 9B) are combined because some	NC Court Database CRRKCY (county code) and Map from UNC School of Government	LB_Dist (Map 1)

	counties contain more than one section	Presentation (Drennan, 2014)	
Population	Population of County of Case in 2010: Total number of people per county	NC Court Database CRRKCY and US Census Bureau Population Data 2010	pop2010
Political Context	Trump Share of Vote per Judicial District: Cumulative percent of	NC Court Database CRRKCY and Election data from Dr. Baumgartner	TrumpDistrictShare
District Racial Composition	District Race – Percentage of judicial district which is nonwhite	NC Court Database CRRKCY And US Census Bureau Population Data 2010	PctWhiteDistrict
Prior Criminal Record Points	Defendant's Prior Record Points Grouped by Punishment Grid – 0 – 1 point = 0 2 – 5 points = 1 6 – 9 points = 2 10 – 13 points = 3 14 – 17 points = 4 18+ points = 5	NC Court Database CRDPRPT	LB_PriorPts
Offense Severity	Offense Class: Charged – Number of charges per offense class for each defendant Convicted – Number of convictions per offense class for each defendant	NC Court Database (as coded by Dr. Baumgartner's graduate student) Various variables coded for the number of charges/convictions of each class of crime	
Plea Type	Type of Plea Defendant Takes: Guilty to Lesser = 0 Guilty = 1 Not Guilty = 2 <i>Alford</i> Plea = 3	CRDPLE	LB_plea
Plea Type 2	Type of Plea Defendant Takes: Guilty to Lesser, Guilty, <i>Alford</i> plea = 0 Not Guilty = 1	CRDPLE	LB_plea2

Model 3. Regression run with prior point categories listed; N = 6,040

. reg Harsh i.LB_PriorPts i.LB_plea i.LB_RG4 i.LB_Atty i.AgeGroup i.LB_Dist						
Source	SS	df	MS	Number of obs = 6,040		
				F(47, 5992) = 219.24		
Model	2845471.53	47	60541.9474	Prob > F = 0.0000		
Residual	1654641.34	5,992	276.141745	R-squared = 0.6323		
				Adj R-squared = 0.6294		
Total	4500112.87	6,039	745.175173	Root MSE = 16.618		

Harsh	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	

LB_PriorPts						
1	-5.473808	.5693339	-9.61	0.000	-6.589907	-4.357708
2	-10.42357	.7147984	-14.58	0.000	-11.82483	-9.022304
3	-15.84918	.8892269	-17.82	0.000	-17.59238	-14.10597
4	-18.95056	1.195524	-15.85	0.000	-21.29421	-16.6069
5	-24.69276	.7514269	-32.86	0.000	-26.16583	-23.21969
LB_plea						
1	46.13699	.5026489	91.79	0.000	45.15161	47.12236
2	36.46662	1.061399	34.36	0.000	34.3859	38.54734
3	18.48364	.6323119	29.23	0.000	17.24408	19.7232
LB_RG4						
1	.4359629	1.471092	0.30	0.767	-2.447907	3.319833
2	2.257846	1.02218	2.21	0.027	.254006	4.261686
3	.9195904	1.026175	0.90	0.370	-1.092082	2.931263
LB_Atty						
1	1.389182	.9932254	1.40	0.162	-.5578971	3.336261
2	1.701564	.9085247	1.87	0.061	-.079471	3.4826
3	.2944316	1.517745	0.19	0.846	-2.680895	3.269758
AgeGroup						
20	1.421271	.6086105	2.34	0.020	.2281749	2.614366
30	1.309432	.7671049	1.71	0.088	-.1943699	2.813233
40	2.322288	.9060762	2.56	0.010	.5460529	4.098524
50	2.167287	1.0592	2.05	0.041	.090873	4.2437
LB_Dist						
2	3.992478	2.777689	1.44	0.151	-1.452792	9.437747
3	2.524395	2.409972	1.05	0.295	-2.200018	7.248807
4	5.827671	2.485669	2.34	0.019	.9548657	10.70048
5	2.993626	2.429651	1.23	0.218	-1.769366	7.756617
6	-3.549271	3.07492	-1.15	0.248	-9.577221	2.478679
7	-6.61898	2.63419	-2.51	0.012	-11.78294	-1.45502
8	-5.885274	2.646429	-2.22	0.026	-11.07323	-.6973208
9	-1.314232	2.647064	-0.50	0.620	-6.503431	3.874968
10	1.740818	2.334417	0.75	0.456	-2.835479	6.317115
11	1.028186	2.485247	0.41	0.679	-3.843792	5.900165
12	-.0612679	2.359405	-0.03	0.979	-4.686551	4.564015
13	1.934314	2.728434	0.71	0.478	-3.4144	7.283027
14	3.297637	2.606598	1.27	0.206	-1.812233	8.407507
15	.2148203	2.580215	0.08	0.934	-4.843329	5.272969
16	3.959635	2.552842	1.55	0.121	-1.044854	8.964123
17	-1.684739	2.781429	-0.61	0.545	-7.13734	3.767863
18	1.248589	2.334304	0.53	0.593	-3.327487	5.824664
19	-.8130186	2.39592	-0.34	0.734	-5.509884	3.883847
20	-.2954192	2.664023	-0.11	0.912	-5.517863	4.927024
21	2.739708	2.457364	1.11	0.265	-2.07761	7.557026
22	1.417047	2.525851	0.56	0.575	-3.534531	6.368625
23	-2.093778	3.107227	-0.67	0.500	-8.18506	3.997505
24	3.877693	3.075534	1.26	0.207	-2.15146	9.906847
25	4.071161	2.761308	1.47	0.140	-1.341997	9.484319
26	2.477133	2.316675	1.07	0.285	-2.064383	7.01865
27	.5127653	2.430748	0.21	0.833	-4.252377	5.277907
28	.0019362	2.796482	0.00	0.999	-5.480174	5.484047
29	2.228694	2.840358	0.78	0.433	-3.339429	7.796818
30	-.5090763	3.344872	-0.15	0.879	-7.066229	6.048076
_cons	17.81299	2.575236	6.92	0.000	12.7646	22.86138

Model 4. Regression run combining guilty pleas and comparing with not guilty pleas; N = 6,040

. reg Harsh LB_PriorPts i.LB_plea2 i.LB_RG4 i.AgeGroup i.LB_Atty i.LB_Dist						
Source	SS	df	MS	Number of obs	=	6,040
Model	502517.349	41	12256.5207	F(41, 5998)	=	18.39
Residual	3997595.52	5,998	666.488083	Prob > F	=	0.0000
				R-squared	=	0.1117
				Adj R-squared	=	0.1056
Total	4500112.87	6,039	745.175173	Root MSE	=	25.816

Harsh	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
LB_PriorPts	-4.360238	.2158074	-20.20	0.000	-4.783298	-3.937178
1.LB_plea2	14.11644	1.59053	8.88	0.000	10.99843	17.23445
LB_RG4						
1	-2.247688	2.283814	-0.98	0.325	-6.724784	2.229408
2	6.830217	1.583366	4.31	0.000	3.72625	9.934184
3	3.488765	1.587418	2.20	0.028	.3768561	6.600674
AgeGroup						
20	1.015237	.9150763	1.11	0.267	-.7786416	2.809116
30	3.476476	1.162507	2.99	0.003	1.197544	5.755408
40	5.516145	1.390347	3.97	0.000	2.790565	8.241725
50	1.735389	1.639754	1.06	0.290	-1.479118	4.949896
LB_Atty						
1	1.850556	1.54019	1.20	0.230	-1.168769	4.869882
2	3.080973	1.407189	2.19	0.029	.3223764	5.83957
3	-1.167128	2.357631	-0.50	0.621	-5.788932	3.454675
LB_Dist						
2	2.903354	4.312021	0.67	0.501	-5.549759	11.35647
3	8.426114	3.739267	2.25	0.024	1.095806	15.75642
4	19.27228	3.851389	5.00	0.000	11.72217	26.82239
5	11.0686	3.770339	2.94	0.003	3.677378	18.45982
6	-3.18854	4.775667	-0.67	0.504	-12.55056	6.173485
7	-2.216243	4.090258	-0.54	0.588	-10.23462	5.802134
8	4.498142	4.104723	1.10	0.273	-3.548591	12.54487
9	-1.249805	4.108265	-0.30	0.761	-9.303482	6.803872
10	3.993312	3.617997	1.10	0.270	-3.099263	11.08589
11	8.213087	3.856238	2.13	0.033	.6534733	15.7727
12	8.064808	3.64893	2.21	0.027	.9115921	15.21802
13	2.997475	4.236049	0.71	0.479	-5.306704	11.30165
14	16.07703	4.036265	3.98	0.000	8.164497	23.98956
15	6.586909	4.006034	1.64	0.100	-1.266357	14.44018
16	8.141166	3.962052	2.05	0.040	.3741193	15.90821
17	6.985389	4.315174	1.62	0.106	-1.473903	15.44468
18	8.320083	3.620731	2.30	0.022	1.222148	15.41802
19	.4871119	3.718941	0.13	0.896	-6.803349	7.777573
20	1.328122	4.136631	0.32	0.748	-6.781162	9.437407
21	14.59033	3.807232	3.83	0.000	7.126787	22.05388
22	3.879968	3.920543	0.99	0.322	-3.805706	11.56564
23	7.462852	4.822613	1.55	0.122	-1.991203	16.91691
24	14.15619	4.772069	2.97	0.003	4.801215	23.51116
25	11.02404	4.284406	2.57	0.010	2.625059	19.42301
26	4.284461	3.596163	1.19	0.234	-2.765311	11.33423
27	3.650718	3.772736	0.97	0.333	-3.745201	11.04664
28	7.275258	4.337429	1.68	0.094	-1.227662	15.77818
29	.811271	4.408507	0.18	0.854	-7.830989	9.453531
30	5.19393	5.192447	1.00	0.317	-4.985134	15.37299
_cons	28.85866	3.989503	7.23	0.000	21.0378	36.67952

Model 5. Regression separating race and sex variables; N = 6,040

```
. reg Harsh LB_PriorPts i.LB_plea LB_RaceBW LB_Sex i.LB_Atty i.AgeGroup i.LB_Dist
```

Source	SS	df	MS	Number of obs	=	6,040
Model	2844201.95	42	67719.094	F(42, 5997)	=	245.25
Residual	1655910.92	5,997	276.123215	Prob > F	=	0.0000
				R-squared	=	0.6320
				Adj R-squared	=	0.6295
Total	4500112.87	6,039	745.175173	Root MSE	=	16.617

Harsh	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
LB_PriorPts	-4.932757	.1390473	-35.48	0.000	-5.20534	-4.660174
LB_plea						
1	46.14016	.502339	91.85	0.000	45.15539	47.12492
2	36.44159	1.06102	34.35	0.000	34.3616	38.52157
3	18.49223	.6320987	29.26	0.000	17.25309	19.73137
LB_RaceBW	-1.174942	.5085467	-2.31	0.021	-2.171876	-.1780073
LB_Sex	1.40288	.7688741	1.82	0.068	-.1043898	2.91015
LB_Atty						
1	1.286609	.9910662	1.30	0.194	-.6562374	3.229455
2	1.596858	.9056764	1.76	0.078	-.1785938	3.372309
3	.2301086	1.517109	0.15	0.879	-2.743971	3.204188
AgeGroup						
20	1.233755	.589824	2.09	0.037	.0774881	2.390023
30	1.136568	.749336	1.52	0.129	-.3324003	2.605536
40	2.254896	.8953324	2.52	0.012	.4997226	4.01007
50	2.111767	1.05564	2.00	0.045	.0423323	4.181202
LB_Dist						
2	3.888988	2.776291	1.40	0.161	-1.55354	9.331517
3	2.461899	2.4083	1.02	0.307	-2.259234	7.183033
4	5.760281	2.483351	2.32	0.020	.8920204	10.62854
5	2.939797	2.428746	1.21	0.226	-1.821418	7.701011
6	-3.58008	3.07418	-1.16	0.244	-9.606579	2.446418
7	-6.696002	2.63341	-2.54	0.011	-11.85843	-1.533572
8	-5.963995	2.644911	-2.25	0.024	-11.14897	-.7790176
9	-1.318361	2.644884	-0.50	0.618	-6.503285	3.866562
10	1.68981	2.333134	0.72	0.469	-2.883972	6.263591
11	.9713254	2.483614	0.39	0.696	-3.897451	5.840102
12	-.0259846	2.353795	-0.01	0.991	-4.64027	4.588301
13	1.849226	2.726599	0.68	0.498	-3.495889	7.194341
14	3.193524	2.60447	1.23	0.220	-1.912174	8.299221
15	.2938262	2.579042	0.11	0.909	-4.762023	5.349675
16	3.899462	2.550987	1.53	0.126	-1.101391	8.900314
17	-1.751271	2.779296	-0.63	0.529	-7.199692	3.697149
18	1.215216	2.332726	0.52	0.602	-3.357766	5.788198
19	-.8399509	2.394758	-0.35	0.726	-5.534537	3.854636
20	-.3817683	2.66269	-0.14	0.886	-5.601599	4.838062
21	2.683352	2.456035	1.09	0.275	-2.13136	7.498065
22	1.316675	2.523718	0.52	0.602	-3.63072	6.26407
23	-2.05517	3.105702	-0.66	0.508	-8.143463	4.033122
24	3.763208	3.073732	1.22	0.221	-2.262412	9.788828
25	4.051976	2.760168	1.47	0.142	-1.358946	9.462898
26	2.443621	2.315189	1.06	0.291	-2.094982	6.982225
27	.4399107	2.429431	0.18	0.856	-4.322647	5.202469
28	-.0299998	2.795288	-0.01	0.991	-5.509769	5.44977
29	2.115566	2.83825	0.75	0.456	-3.448425	7.679556
30	-.510028	3.343286	-0.15	0.879	-7.06407	6.044014
_cons	18.55424	2.507129	7.40	0.000	13.63936	23.46911

Model 6. Regression run if everyone had zero prior criminal record points; N=6,040

```
. reg HarshNo crdprpt i.LB_plea i.LB_RG4 i.AgeGroup i.LB_Atty i.LB_Dist
```

Source	SS	df	MS	Number of obs	=	5,541
Model	3466629.97	43	80619.3017	F(43, 5497)	=	227.41
Residual	1948725.78	5,497	354.507146	Prob > F	=	0.0000
				R-squared	=	0.6401
				Adj R-squared	=	0.6373
Total	5415355.76	5,540	977.501039	Root MSE	=	18.828

HarshNo	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
crdprpt	.0779825	.0491697	1.59	0.113	-.0184096	.1743747
LB_plea						
1	55.35273	.5938124	93.22	0.000	54.18862	56.51684
2	44.58674	1.241308	35.92	0.000	42.15328	47.02019
3	21.76089	.7424754	29.31	0.000	20.30535	23.21644
LB_RG4						
1	.2319825	1.735672	0.13	0.894	-3.170622	3.634587
2	2.201124	1.199662	1.83	0.067	-.1506882	4.552935
3	.6160512	1.208362	0.51	0.610	-1.752817	2.984919
AgeGroup						
20	1.074427	.7005695	1.53	0.125	-.2989666	2.44782
30	.4742762	.9054887	0.52	0.600	-1.30084	2.249392
40	2.236087	1.106092	2.02	0.043	.0677096	4.404464
50	.8037342	1.293996	0.62	0.535	-1.733009	3.340478
LB_Atty						
1	1.990075	1.170533	1.70	0.089	-.3046317	4.284782
2	1.915331	1.068255	1.79	0.073	-.1788726	4.009534
3	.6975028	1.782216	0.39	0.696	-2.796345	4.191351
LB_Dist						
2	6.42913	3.240267	1.98	0.047	.076926	12.78133
3	4.427375	2.802116	1.58	0.114	-1.065881	9.920631
4	8.682508	2.899818	2.99	0.003	2.997717	14.3673
5	4.07455	2.831311	1.44	0.150	-1.47594	9.62504
6	-2.321837	3.550421	-0.65	0.513	-9.282066	4.638392
7	-7.330461	3.054153	-2.40	0.016	-13.31781	-1.343113
8	-6.939976	3.081378	-2.25	0.024	-12.9807	-.8992561
9	-.1879608	3.074825	-0.06	0.951	-6.215834	5.839912
10	2.756926	2.722124	1.01	0.311	-2.579514	8.093366
11	2.115084	2.895019	0.73	0.465	-3.560298	7.790466
12	1.717982	2.787996	0.62	0.538	-3.747594	7.183557
13	4.024631	3.204483	1.26	0.209	-2.257423	10.30669
14	5.019148	3.056128	1.64	0.101	-.9720715	11.01037
15	2.4844	3.017718	0.82	0.410	-3.431521	8.40032
16	4.859277	2.970402	1.64	0.102	-.9638859	10.68244
17	-1.393195	3.294305	-0.42	0.672	-7.851336	5.064946
18	2.705425	2.717432	1.00	0.319	-2.621817	8.032667
19	.5611673	2.800645	0.20	0.841	-4.929205	6.05154
20	.398582	3.099239	0.13	0.898	-5.677154	6.474318
21	5.17595	2.863342	1.81	0.071	-.4373326	10.78923
22	1.971363	2.945198	0.67	0.503	-3.80239	7.745116
23	1.65702	3.615195	0.46	0.647	-5.430193	8.744232
24	5.309828	3.637024	1.46	0.144	-1.820178	12.43983
25	6.193777	3.224166	1.92	0.055	-.1268646	12.51442
26	3.538994	2.697972	1.31	0.190	-1.750098	8.828086
27	1.381745	2.827768	0.49	0.625	-4.161799	6.925289
28	.280313	3.284734	0.09	0.932	-6.159066	6.719692
29	3.839424	3.292839	1.17	0.244	-2.615844	10.29469
30	1.161235	3.860734	0.30	0.764	-6.407331	8.7298
_cons	12.3241	3.012777	4.09	0.000	6.417865	18.23034

Model 7. Regression showing the impacts of other location factors; N = 6,040

```
. reg Harsh LB_PriorPts i.LB_plea i.LB_RG4 i.AgeGroup i.LB_Atty pop2010 TrumpDistrictShare PctWhiteDistrict
```

Source	SS	df	MS	Number of obs	=	6,040
Model	2813403.27	17	165494.31	F(17, 6022)	=	590.86
Residual	1686709.6	6,022	280.091265	Prob > F	=	0.0000
				R-squared	=	0.6252
				Adj R-squared	=	0.6241
Total	4500112.87	6,039	745.175173	Root MSE	=	16.736

Harsh	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
LB_PriorPts	-4.933689	.1391265	-35.46	0.000	-5.206427	-4.660952
LB_plea						
1	46.40764	.4981218	93.17	0.000	45.43115	47.38414
2	36.55233	1.06172	34.43	0.000	34.47098	38.63369
3	18.57466	.6134523	30.28	0.000	17.37208	19.77725
LB_RG4						
1	.4257179	1.474815	0.29	0.773	-2.465448	3.316884
2	2.018673	1.023904	1.97	0.049	.0114538	4.025892
3	.5409832	1.026132	0.53	0.598	-1.470603	2.55257
AgeGroup						
20	1.197524	.5923514	2.02	0.043	.0363032	2.358745
30	.9517958	.7506841	1.27	0.205	-.5198136	2.423405
40	2.098208	.8972997	2.34	0.019	.3391796	3.857237
50	2.063625	1.059321	1.95	0.051	-.0130238	4.140275
LB_Atty						
1	1.430997	.9760846	1.47	0.143	-.4824783	3.344472
2	1.092345	.9015631	1.21	0.226	-.6750415	2.859731
3	-.1329479	1.511171	-0.09	0.930	-3.095384	2.829488
pop2010	1.82e-06	9.85e-07	1.84	0.065	-1.14e-07	3.75e-06
TrumpDistrictShare	-.0070836	.0298791	-0.24	0.813	-.0656574	.0514902
PctWhiteDistrict	.0382198	.0254647	1.50	0.133	-.0117001	.0881397
_cons	16.82972	2.015387	8.35	0.000	12.87884	20.7806

Model 8. Regression without Attorney Type; N = 9,836

```
. reg Harsh i.LB_RG4 i.AgeGroup i.LB_Dist LB_PriorPts i.LB_plea
```

Source	SS	df	MS	Number of obs	=	9,836
Model	3276657.37	40	81916.4343	F(40, 9795)	=	369.21
Residual	2173234.81	9,795	221.871854	Prob > F	=	0.0000
				R-squared	=	0.6012
				Adj R-squared	=	0.5996
Total	5449892.18	9,835	554.132403	Root MSE	=	14.895

	Harsh	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
	LB_RG4						
	1	.3227745	1.103056	0.29	0.770	-1.839443	2.484992
	2	2.14508	.730557	2.94	0.003	.7130373	3.577122
	3	.6759684	.7332952	0.92	0.357	-.7614415	2.113378
	AgeGroup						
	20	.9588961	.4754689	2.02	0.044	.026879	1.890913
	30	1.174434	.5574157	2.11	0.035	.0817838	2.267083
	40	2.018346	.6239829	3.23	0.001	.7952113	3.241482
	50	2.186759	.7192412	3.04	0.002	.776898	3.59662
	LB_Dist						
	2	4.361563	1.926307	2.26	0.024	.5856033	8.137523
	3	3.153313	1.661133	1.90	0.058	-.1028511	6.409477
	4	6.663515	1.765799	3.77	0.000	3.202185	10.12484
	5	3.540258	1.679267	2.11	0.035	.2485489	6.831967
	6	-1.719521	2.167301	-0.79	0.428	-5.967879	2.528837
	7	-4.520315	1.859911	-2.43	0.015	-8.166123	-.8745058
	8	-3.125664	1.803463	-1.73	0.083	-6.660824	.4094956
	9	-.3103939	1.830796	-0.17	0.865	-3.899131	3.278344
	10	2.269321	1.606676	1.41	0.158	-.8800959	5.418738
	11	1.394579	1.622305	0.86	0.390	-1.785474	4.574632
	12	1.71046	1.634665	1.05	0.295	-1.493821	4.914741
	13	2.950558	1.791437	1.65	0.100	-.5610272	6.462143
	14	2.757781	1.736167	1.59	0.112	-.6454648	6.161028
	15	.5293585	1.749293	0.30	0.762	-2.899617	3.958334
	16	3.379891	1.794187	1.88	0.060	-.1370852	6.896867
	17	2.1282	1.819524	1.17	0.242	-1.438442	5.694842
	18	1.332249	1.60825	0.83	0.407	-1.820254	4.484751
	19	1.281891	1.613518	0.79	0.427	-1.880937	4.444719
	20	.2855446	1.888662	0.15	0.880	-3.416622	3.987712
	21	2.322238	1.661532	1.40	0.162	-.934708	5.579184
	22	2.739751	1.694176	1.62	0.106	-.581183	6.060685
	23	.6337986	2.055937	0.31	0.758	-3.396261	4.663858
	24	2.356543	1.966357	1.20	0.231	-1.497922	6.211008
	25	2.750874	1.680209	1.64	0.102	-.5426819	6.044429
	26	2.655736	1.603148	1.66	0.098	-.4867655	5.798238
	27	1.341395	1.645404	0.82	0.415	-1.883935	4.566725
	28	-.7947523	1.801464	-0.44	0.659	-4.325994	2.736489
	29	1.375648	1.81712	0.76	0.449	-2.186282	4.937578
	30	-.2039923	2.067244	-0.10	0.921	-4.256218	3.848233
	LB_PriorPts	-5.021344	.0876078	-57.32	0.000	-5.193074	-4.849615
	LB_plea						
	1	44.20202	.3887022	113.72	0.000	43.44008	44.96395
	2	36.63462	.7680704	47.70	0.000	35.12904	38.14019
	3	22.77111	.4957541	45.93	0.000	21.79932	23.74289
	_cons	18.92855	1.694514	11.17	0.000	15.60695	22.25015

Figure 8. Annotated Do-File run in STATA

```
*One, read the database, drop cases before Oct 1, 2013, those not yet
resolved, not a-d felonies...
cd G:\FB\DP\NC-current\AdminOfficeCourtsData2015\NC-AOC-data\Update-Feb2018\
clear
use CR-23Feb2019.dta
*drop cases before Oct 1 2013
sum crrdts
drop if crrdts < 20130931
*drop unresolved cases
sum crrddt
drop if crrddt == .
*drop those w/o any a-d felony arrest codes
drop if charged_a == 0 & charged_b1 == 0 & charged_b2 == 0 & charged_c == 0 &
charged_d == 0
*Drop cases where the verdicts are measured in days, not months
keep if verdict_unit == 2
destring crdcst, replace
*check codes for missing data on derived variables
sum charged_a - verdict_unit
recode charged_a - verdict_unit (-2=.)
recode charged_a - verdict_unit (-1=.)

cd G:\FB\teach\theses\LukeBeyer\
save Luke-a.dta, replace

*collapse by disposition - person

clear
use Luke-a.dta
collapse (last) crradd crrcty crrdst crrzip crrdob crrace crrsex crrbondt
crrdat crdple (max) crocdt crdprpt crdcst crrbonda (sum) charged_a -
verdict_max_b, by(crrddt crrkcy crrnam)
save Luke-b.dta, replace
tab1 charged_a charged_b* charged_c charged_d arraigned_a arraigned_b*
arraigned_c arraigned_d verdict_a verdict_b* verdict_c verdict_d, miss

cd G:\FB\teach\theses\LukeBeyer\
clear
use Luke-b.dta

*drop those w/o any a-d felony arrest codes
drop if charged_a == 0 & charged_b1 == 0 & charged_b2 == 0 & charged_c == 0 &
charged_d == 0

*Creating Race Variable
gen LB_Race = 0 if crrace=="W"
replace LB_Race = 1 if crrace=="B"
replace LB_Race = 1 if crrace=="H"
replace LB_Race = 1 if crrace=="O"

gen LB_RaceBW = 0 if crrace=="W"
replace LB_RaceBW = 1 if crrace=="B"
```

```

*Creating Sex Variable
gen LB_Sex = 0 if crrsex=="F"
replace LB_Sex = 1 if crrsex=="M"

*Race x gender
gen LB_RG4 = 0 if crrsex=="F" & LB_RaceBW==0
recode LB_RG4 (. = 1) if crrsex=="F" & LB_RaceBW==1
recode LB_RG4 (. = 2) if crrsex=="M" & LB_RaceBW==0
recode LB_RG4 (. = 3) if crrsex=="M" & LB_RaceBW==1

*Creating Age Variable
*drop LB_DOB LB_OffDate LB_AgeatCrime
destring crrdob, gen(temp_DOB)
gen temp_YOB = floor(temp_DOB/10000)
gen temp_monthb = temp_DOB - (temp_YOB*10000)
gen temp_MOB = floor(temp_monthb/100)
gen temp_DayOB = temp_monthb - (temp_MOB*100)
gen LB_BirthDate = mdy(temp_MOB , temp_DayOB , temp_YOB)
gen LB_BirthDate2 = LB_BirthDate
format LB_BirthDate2 %td
drop temp_DOB temp_YOB temp_monthb temp_MOB temp_DayOB temp_YOB LB_BirthDate

*CROCDT
gen double temp_DOC = crocdt
gen temp_YOC = floor(temp_DOC/10000)
gen temp_monthc = temp_DOC - (temp_YOC*10000)
gen temp_MOC = floor(temp_monthc/100)
gen temp_DayOC = temp_monthc - (temp_MOC*100)
gen LB_ChargeDate = mdy(temp_MOC , temp_DayOC , temp_YOC)
gen LB_ChargeDate2 = LB_ChargeDate
format LB_ChargeDate2 %td
drop temp_DOC temp_YOC temp_monthc temp_MOC temp_DayOC temp_YOC LB_ChargeDate

gen LB_AgeatCrime = (LB_ChargeDate2 - LB_BirthDate2)/365.25

***To make age categories
*spikeplot on age, or "sum, d"
sum LB_AgeatCrime, d
spikeplot LB_AgeatCrime, round(1)

egen AgeGroup = cut(LB_AgeatCrime), at(15,20,30,40,50,150)
*Play with that by saying
sort AgeGroup
by AgeGroup: sum LB_AgeatCrime

*This will tell you how it handled cases in the extremens and
*exactly where it drew the lines: 20, or 19.999)

*Creating Socioeconomic Status Variable

*Creating Attorney Variable
gen LB_Atty = 0 if crrdat=="R"
replace LB_Atty = 1 if crrdat=="P"
replace LB_Atty = 2 if crrdat=="A"
replace LB_Atty = 3 if crrdat=="W"

```

```

*Creating Population Variable
gen LB_fips = (1) if crrkcy == 000
replace LB_fips = (3) if crrkcy == 010
replace LB_fips = (5) if crrkcy == 020
replace LB_fips = (7) if crrkcy == 030
replace LB_fips = (9) if crrkcy == 040
replace LB_fips = (11) if crrkcy == 050
replace LB_fips = (13) if crrkcy == 060
replace LB_fips = (15) if crrkcy == 070
replace LB_fips = (17) if crrkcy == 080
replace LB_fips = (19) if crrkcy == 090
replace LB_fips = (21) if crrkcy == 100
replace LB_fips = (23) if crrkcy == 110
replace LB_fips = (25) if crrkcy == 120
replace LB_fips = (27) if crrkcy == 130
replace LB_fips = (29) if crrkcy == 140
replace LB_fips = (31) if crrkcy == 150
replace LB_fips = (33) if crrkcy == 160
replace LB_fips = (35) if crrkcy == 170
replace LB_fips = (37) if crrkcy == 180
replace LB_fips = (39) if crrkcy == 190
replace LB_fips = (41) if crrkcy == 200
replace LB_fips = (43) if crrkcy == 210
replace LB_fips = (45) if crrkcy == 220
replace LB_fips = (47) if crrkcy == 230
replace LB_fips = (49) if crrkcy == 240
replace LB_fips = (51) if crrkcy == 250
replace LB_fips = (53) if crrkcy == 260
replace LB_fips = (55) if crrkcy == 270
replace LB_fips = (57) if crrkcy == 280
replace LB_fips = (59) if crrkcy == 290
replace LB_fips = (61) if crrkcy == 300
replace LB_fips = (63) if crrkcy == 310
replace LB_fips = (65) if crrkcy == 320
replace LB_fips = (67) if crrkcy == 330
replace LB_fips = (69) if crrkcy == 340
replace LB_fips = (71) if crrkcy == 350
replace LB_fips = (73) if crrkcy == 360
replace LB_fips = (75) if crrkcy == 370
replace LB_fips = (77) if crrkcy == 380
replace LB_fips = (79) if crrkcy == 390
replace LB_fips = (81) if crrkcy == 400
replace LB_fips = (83) if crrkcy == 410
replace LB_fips = (85) if crrkcy == 420
replace LB_fips = (87) if crrkcy == 430
replace LB_fips = (89) if crrkcy == 440
replace LB_fips = (91) if crrkcy == 450
replace LB_fips = (93) if crrkcy == 460
replace LB_fips = (95) if crrkcy == 470
replace LB_fips = (97) if crrkcy == 480
replace LB_fips = (99) if crrkcy == 490
replace LB_fips = (101) if crrkcy == 500
replace LB_fips = (103) if crrkcy == 510
replace LB_fips = (105) if crrkcy == 520
replace LB_fips = (107) if crrkcy == 530
replace LB_fips = (109) if crrkcy == 540

```

```

replace LB_fips = (111) if crrkcy == 550
replace LB_fips = (113) if crrkcy == 560
replace LB_fips = (115) if crrkcy == 570
replace LB_fips = (117) if crrkcy == 580
replace LB_fips = (119) if crrkcy == 590
replace LB_fips = (121) if crrkcy == 600
replace LB_fips = (123) if crrkcy == 610
replace LB_fips = (125) if crrkcy == 620
replace LB_fips = (127) if crrkcy == 630
replace LB_fips = (129) if crrkcy == 640
replace LB_fips = (131) if crrkcy == 650
replace LB_fips = (133) if crrkcy == 660
replace LB_fips = (135) if crrkcy == 670
replace LB_fips = (137) if crrkcy == 680
replace LB_fips = (139) if crrkcy == 690
replace LB_fips = (141) if crrkcy == 700
replace LB_fips = (143) if crrkcy == 710
replace LB_fips = (145) if crrkcy == 720
replace LB_fips = (147) if crrkcy == 730
replace LB_fips = (149) if crrkcy == 740
replace LB_fips = (151) if crrkcy == 750
replace LB_fips = (153) if crrkcy == 760
replace LB_fips = (155) if crrkcy == 770
replace LB_fips = (157) if crrkcy == 780
replace LB_fips = (159) if crrkcy == 790
replace LB_fips = (161) if crrkcy == 800
replace LB_fips = (163) if crrkcy == 810
replace LB_fips = (165) if crrkcy == 820
replace LB_fips = (167) if crrkcy == 830
replace LB_fips = (169) if crrkcy == 840
replace LB_fips = (171) if crrkcy == 850
replace LB_fips = (173) if crrkcy == 860
replace LB_fips = (175) if crrkcy == 870
replace LB_fips = (177) if crrkcy == 880
replace LB_fips = (179) if crrkcy == 890
replace LB_fips = (181) if crrkcy == 900
replace LB_fips = (183) if crrkcy == 910
replace LB_fips = (185) if crrkcy == 920
replace LB_fips = (187) if crrkcy == 930
replace LB_fips = (189) if crrkcy == 940
replace LB_fips = (191) if crrkcy == 950
replace LB_fips = (193) if crrkcy == 960
replace LB_fips = (195) if crrkcy == 970
replace LB_fips = (197) if crrkcy == 980
replace LB_fips = (199) if crrkcy == 990

*Import USDA Population database and line up with Fips code
*rename
gen fips = LB_fips+37000
joinby fips using Luke-additional-county.dta, unsmaster
rename _merge _merge2
joinby LB_District using Luke-additional-District.dta, unsmaster

*Prior Points
destring crdprpt, gen(PriorPts)
gen LB_PriorPts = 0 if crdprpt == 00 | crdprpt == 01

```

```

replace LB_PriorPts = 1 if crdprpt == 02 | crdprpt == 03 | crdprpt == 04 |
crdprpt == 05
replace LB_PriorPts = 2 if crdprpt == 06 | crdprpt == 07 | crdprpt == 08 |
crdprpt == 09
replace LB_PriorPts = 3 if crdprpt == 10 | crdprpt == 11 | crdprpt == 12 |
crdprpt == 13
replace LB_PriorPts = 4 if crdprpt == 14 | crdprpt == 15 | crdprpt == 16 |
crdprpt == 17
replace LB_PriorPts = 5 if crdprpt > 17

save Luke-c.dta, replace

*Calculate Harshness Variable - use worse possible number. Assume 0 points
first. then gen punishment
*change variable names here from ClassATotal to charged_a etc. through
charged_i

gen LB_Risk0 = 1200*charged_a + 300*charged_b1 + 196*charged_b2 +
92*charged_c + 80*charged_d + 31*charged_e + 20*charged_f + 16*charged_g +
8*charged_h + 8*charged_i if LB_PriorPts == 0
gen LB_Risk1 = 1200*charged_a + 345*charged_b1 + 225*charged_b2 +
104*charged_c + 92*charged_d + 36*charged_e + 23*charged_f + 18*charged_g +
10*charged_h + 8*charged_i if LB_PriorPts == 1
gen LB_Risk2 = 1200*charged_a + 397*charged_b1 + 258*charged_b2 +
120*charged_c + 105*charged_d + 41*charged_e + 27*charged_f + 21*charged_g +
12*charged_h + 8*charged_i if LB_PriorPts == 2
gen LB_Risk3 = 1200*charged_a + 456*charged_b1 + 297*charged_b2 +
138*charged_c + 121*charged_d + 48*charged_e + 31*charged_f + 24*charged_g +
14*charged_h + 10*charged_i if LB_PriorPts == 3
gen LB_Risk4 = 1200*charged_a + 600*charged_b1 + 342*charged_b2 +
159*charged_c + 139*charged_d + 55*charged_e + 36*charged_f + 27*charged_g +
19*charged_h + 11*charged_i if LB_PriorPts == 4
gen LB_Risk5 = 1200*charged_a + 600*charged_b1 + 393*charged_b2 +
182*charged_c + 160*charged_d + 63*charged_e + 41*charged_f + 31*charged_g +
25*charged_h + 12*charged_i if LB_PriorPts == 5
recode LB_Risk* (.=0)
gen LB_Risk = LB_Risk0+LB_Risk1+LB_Risk2+LB_Risk3+LB_Risk4+LB_Risk5

gen LB_Harsh = verdict_min_b / LB_Risk

gen Harsh = LB_Harsh*100

*Plea type variable
gen LB_plea = 0 if crdple=="GL"
replace LB_plea = 1 if crdple=="GU"
replace LB_plea = 2 if crdple=="NG"
replace LB_plea = 3 if crdple=="GA"

*Spikeplot of Harshness outcomes
spikeplot Harsh if LB_Atty < 4 & LB_RaceBW < 2 & LB_plea < 4 & LB_PriorPts <
10000 & Harsh < 100000 & AgeGroup < 100 & LB_Dist < 31, round(5)

*Spikeplot at prior criminal record level
spikeplot LB_PriorPts if LB_Atty < 4 & LB_RaceBW < 2 & LB_plea < 4 &
LB_PriorPts < 10000 & Harsh < 100000 & AgeGroup < 100 & LB_Dist < 31

*Frequency distribution table of plea types

```

```

tab LB_Plea if LB_Atty < 4 & LB_RaceBW < 2 & LB_plea < 4 & LB_PriorPts <
10000 & Harsh < 100000 & AgeGroup < 100 & LB_Dist < 31

*Spikeplot age
spikeplot LB_AgeatCrime if LB_Atty < 4 & LB_RaceBW < 2 & LB_plea < 4 &
LB_PriorPts < 10000 & Harsh < 100000 & AgeGroup < 100 & LB_Dist < 31,
round(1)

*Regression (main) - Model 1
reg Harsh LB_PriorPts i.LB_plea i.LB_RG4 i.AgeGroup i.LB_Atty i.LB_Dist

*Regression for 3 levels of risk (low, med, high) - Model 2
drop LB_RiskL
egen LB_RiskL = cut(LB_Risk), at(0,80,120,185,19000)
sum LB_RiskL LB_Risk

sort LB_RiskL
by LB_RiskL: reg Harsh LB_PriorPts i.LB_plea i.LB_RG4 i.AgeGroup i.LB_Atty
i.LB_Dist

*Frequency distribution of age groups with prior points levels
tab LB_PriorPts AgeGroup if LB_Atty < 4 & LB_RaceBW < 2 & LB_plea < 4 &
LB_PriorPts < 10000 & Harsh < 100000 & AgeGroup < 100 & LB_Dist < 31

*Regression to Show that the prior points effect is consistent - Model 3
reg Harsh i.LB_PriorPts i.LB_plea i.LB_RG4 i.LB_Atty i.AgeGroup i.LB_Dist

*Regression combining plea types - Model 4
gen LB_plea2 = 0 if LB_plea==0
replace LB_plea2 = 0 if LB_plea==1
replace LB_plea2 = 0 if LB_plea==3
replace LB_plea2 = 1 if LB_plea==2
reg Harsh LB_PriorPts i.LB_plea2 i.LB_RG4 i.AgeGroup i.LB_Atty i.LB_Dist

*Regression to show Race and Sex separated - Model 5
reg Harsh LB_PriorPts i.LB_plea i.LB_RaceBW LB_Sex i.LB_Atty i.AgeGroup
i.LB_Dist

*Regression if the Defendant had 0 Prior Record Points - Model 6
gen LB_RiskNo = 1200*charged_a + 300*charged_b1 + 196*charged_b2 +
92*charged_c + 80*charged_d + 31*charged_e + 20*charged_f + 16*charged_g +
8*charged_h + 8*charged_i
gen LB_HarshNo = verdict_min_b / LB_RiskNo
gen HarshNo = LB_HarshNo*100
reg HarshNo crdprpt i.LB_plea i.LB_RG4 i.AgeGroup i.LB_Atty i.LB_Dist

*Regression with location factos - Model 7
reg Harsh LB_PriorPts i.LB_plea i.LB_RG4 i.AgeGroup i.LB_Atty pop2010
TrumpDistrictShare PctWhiteDistrict

*Regression without attorney type - Model 8
reg Harsh LB_PriorPts i.LB_plea i.LB_RG4 i.AgeGroup i.LB_Dist

*Running the Regression without Prior Record Points to Look at Effect with
Age - Unused Model
reg Harsh i.LB_plea i.LB_RG4 i.AgeGroup i.LB_Atty i.LB_Dist

```